flora

ANNOTATED LIST OF VASCULAR PLANTS

Adam F. Szczawinski *and* Antony S. Harrison

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British Columbia Provincial Museum

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Flora of the Saanich Peninsula

ANNOTATED LIST OF VASCULAR PLANTS

by

ADAM F. SZCZAWINSKI
ANTONY S. HARRISON

VICTORIA, B.C.

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BRITISH COLUMBIA
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KAMLOOPS
Okanagan
Kootenay District
VANCOUVER
ISLAND
NANAIMO
VANCOUVER
VICTORIA
PACIFIC
OCEAN

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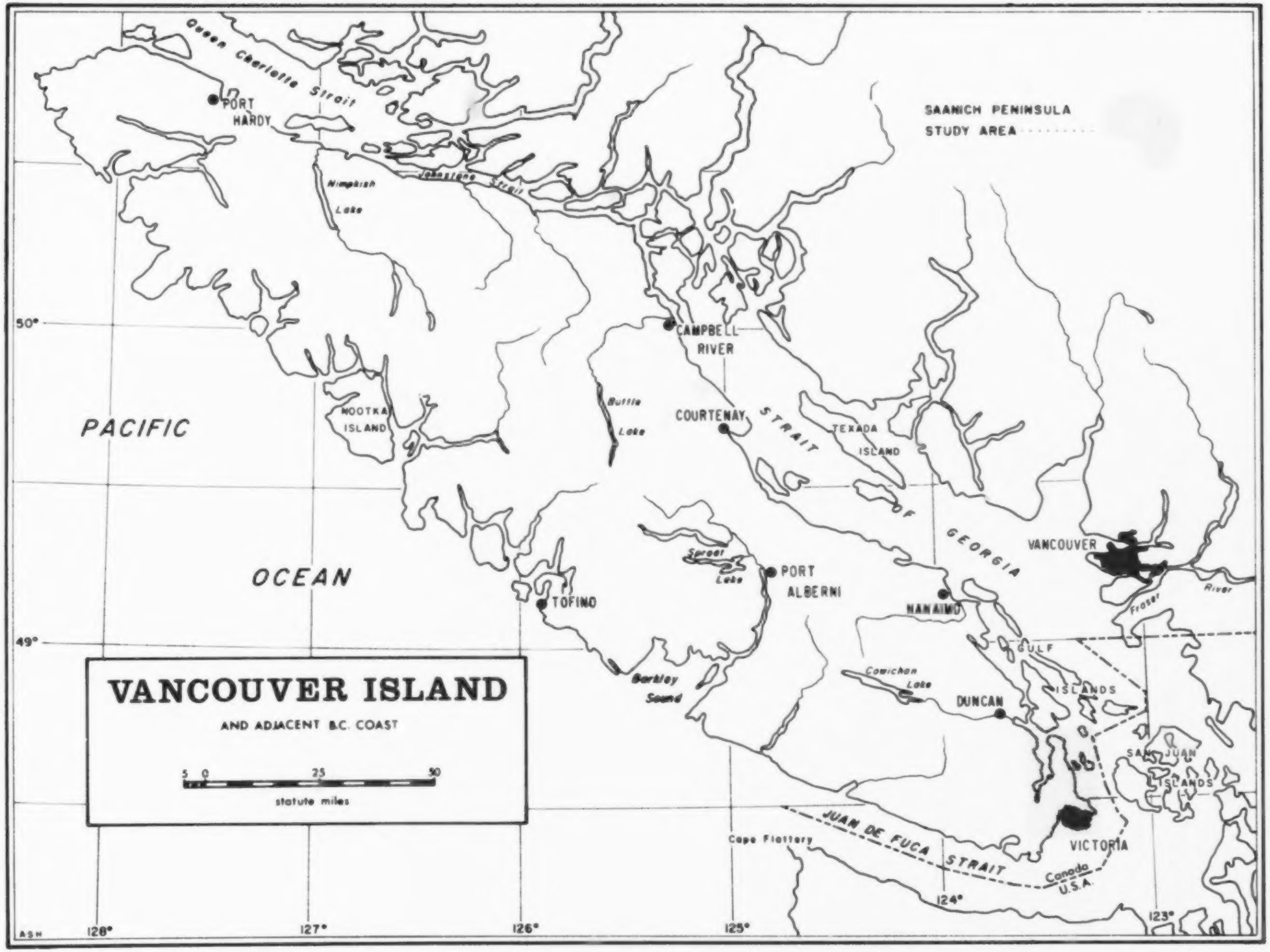
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NOOTKA ISLAND
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PORT ALBERNI
NANAIMO
VANCOUVER
Fraser River
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Cowichan Lake
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Fig. 1. Vancouver Island and adjacent coast, showing the location of the Saanich Peninsula study area.

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INTRODUCTION

The region studied in this survey (Fig. 1) is that part of Vancouver Island known as the Saanich Peninsula. It projects about 20 miles into Georgia Strait from the southern tip of the Island and is separated from it by the fiord-like Saanich Inlet. The area, as outlined on the map, covers 126.8 square miles. Much of the peninsula is comprised of low-level land, generally suited to mixed farming; however, to the west is a hilly area known as the Highlands. Topographically, the Highlands are distinct from the rest of the peninsula, being 500 to 1,000 feet higher and having a much greater relief; while geographically, the Highlands are more closely allied to the remainder of Southern Vancouver Island than to the Saanich Peninsula. As the area is interesting floristically and has many outstanding records, it is included in our study.

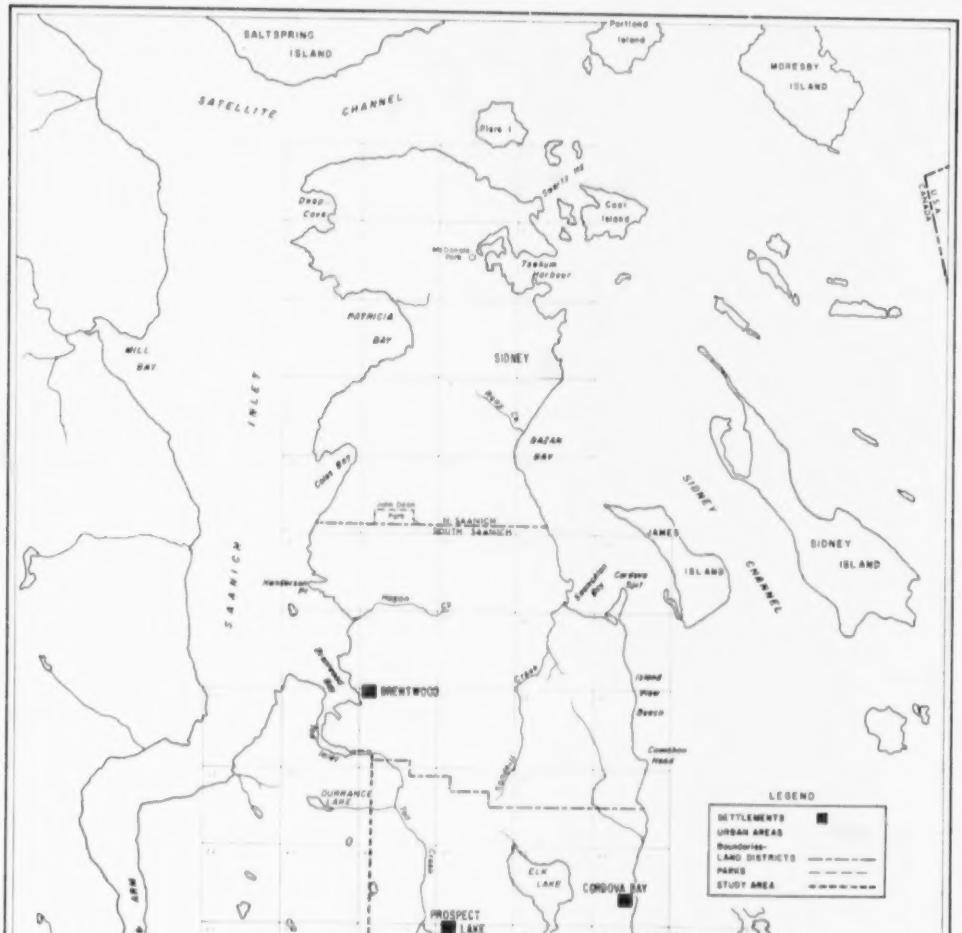
Human impact on the Saanich Peninsula and the resultant change in the vegetation has been considerable and began in 1843 with the establishment of Fort Victoria by James Douglas of the Hudson's Bay Company. At that time, the vegetation cover of the peninsula was almost in a virgin state, evidenced by mature stands of Douglas fir, Garry oak, and arbutus. The first land clearing began at Craigflower, where a farm was set up by Douglas' men to supply the new fort and fur trade activity on the Coast. Soon more settlers took advantage of the extensive arable land and, before long, virgin forest area was noticeably reduced. Logging, too, was on the increase, as the growing towns of Victoria and Sidney developed a healthy appetite for lumber and firewood and were even then establishing export markets for local timber. By 1853 there were some 300 settlers in Victoria, most of them servants of the Company. As all the arable land surrounding Fort Victoria was owned by the Hudson's Bay Company, Capt. Colquhoun Grant, one of the first independent settlers, acquired land at Sooke. He was responsible for the introduction of the invasive Scotch broom (*Cytisus scoparius*) which now covers much of the open habitat of the peninsula. Similarly, many other species were introduced, and today over 300 are recorded. Some of these, like the broom, were aggressive and soon became noxious weeds, difficult to eradicate.

The population of the Saanich Peninsula today is close to 200,000, and a very large area has been cleared of the native vegetation. This removal of the natural plant cover has undoubtedly had a marked effect on such ecological factors as climate and water table and, consequently, the remaining physically undisturbed vegetation has also undergone change. On the peninsula, the farmers' fields are being rapidly diminished by housing developments; while elsewhere, the remaining woods are being cleared for the same purposes. This continued development constitutes a distinct threat to the indigenous flora of the peninsula, especially as it contains several species not found anywhere else in Canada. Realizing this, the authors felt it imperative that a study of the area's flora be made before it suffered a complete depletion.

Accordingly, during the summer of 1966 and 1967, a botanical survey of the Saanich Peninsula was made. As a result, 80 sites were established on the peninsula and complete vascular plant collections were made at each of them. To ensure uniform coverage of the region and to identify the collection sites, a grid of numbered squares was imposed on the peninsula (Fig. 2) and detailed map coverage was obtained with six N.T.S. 1:25,000 maps. These were overlaid with a military grid system similar to lines of latitude and longitude. A square of useful dimensions (1.28 miles) was formed by darkening every other line horizontally and vertically. The squares thus formed were numbered consecutively, as were the sites within each square. This gave an easy-to-use, two-figured identification of every site (49.1, 60.5, etc.) and also simplified the recording of habitat data. In addition, each specimen sheet was marked with the site number; which was then entered against the site's habitat description in a field book.

ADAM F. SZCZAWINSKI

ANTONY S. HARRISON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MORESBY ISLAND
SATELLITE CHANNEL
Piers I.
Deep Cove
Coal Island
Tsehum Harbour
MILL BAY
PATRICIA BAY
SIDNEY
SAANICH INLET
BAZAN BAY
Coles Bay
John Dean Park
N. SAANICH
SOUTH SAANICH
JAMES ISLAND
SIDNEY CHANNEL
SIDNEY ISLAND
Henderson Pt
Cordova Spit
Island View Beach
Cowichan Head
BRENTWOOD
DURRANCE LAKE
LEGEND
SETTLEMENTS
URBAN AREAS
Boundaries-
LAND DISTRICTS
PARKS
STUDY AREA
ELK LAKE
CORDOVA BAY
PROSPECT LAKE
Prospect Lake
BEAVER LAKE
STUDY AREA SHADED
HARO STRAIT
FINLAYSON ARM
HIGHLAND LAKE
ROYAL OAK
Gordon Head
Mount Douglas Park
VICTORIA
Blenkinsop Lake
Thetis Park
Thetis Lake
GOLDSTREAM RIVER
Goldstream Park
ESQUIMALT
Portage Inlet
Swan L.
Langford Lake
LANGFORD
Esquimalt
Harbour
COLWOOD
Esquimalt Lagoon
ROYAL ROADS
VICTORIA
Victoria Harbour
Beacon Hill Park
Cadboro Bay
Uplands Park
Cattle Pt
Oak Bay
MILES
A. S. HARRISON

Fig. 2. Saanich Peninsula, showing the grid system used.

ACKNOWLEDGMENTS

The assistance of Dr. V. Krajina, Department of Botany, University of British Columbia, Vancouver, in the compilation of the chapter on ecology and of Dr. J. Fyles, Deputy Minister of the British Columbia Department of Mines and Petroleum Resources, Victoria, in the compilation of the chapter on geology is gratefully acknowledged by the authors.

Similarly, we acknowledge with special appreciation the contribution made by Miss M. C. Melburn, of Victoria, who was responsible for many of the collections and a considerable part of the identification; C. Clark, of Victoria, for his excellent photographs; and Mrs. S. Y. Newnham, Herbarium Assistant, Provincial Museum, Victoria, for her assistance in the technical preparation of the manuscript. In addition, many outstanding records were contributed by the Melburn herbarium.

EARLY CONTRIBUTORS TO THE FLORA OF THE SAANICH PENINSULA

The vegetation of the Saanich Peninsula has a fascinating appeal to the botanist and student of natural history, because of the ecological conditions resulting from its geographical location. It is disappointing to find that so little botanical research has been undertaken in an area that is so rich in natural history, and which has long aroused the interest of botanists and naturalists. Lack of existing botanical literature confirms the acute need for such a study while partially virgin areas are still available.

The following statement appeared in the 1921 Provincial Museum publication *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands:* "The late J. M. Macoun announced in the early part of this year, 1913, that he had the manuscript for a 'Flora of Vancouver Island' almost ready for the press, and that it would embody the results of several years' work by himself, Professor Macoun, and Mr. Spreadborough in various parts of Vancouver Island and the Queen Charlotte Islands. For reason of ill-health and cramped quarters after the fire at the Parliament Buildings at Ottawa, his intentions were not fulfilled, although he often spoke of the urgent necessity of such a work." The bulk of information and records in this publication was compiled by W. R. Carter, who did considerable collecting on Vancouver Island, and by Dr. C. F. Newcombe, who supplied a great deal of information with respect to the flora of both Vancouver Island and the Queen Charlotte Islands. Also, records listed in the publication are included in our work, but unfortunately many specimens were not obtainable for re-examination.

In 1915, J. K. Henry published a book entitled *Flora of Southern British Columbia and Vancouver Island* that included many references to Victoria and the Saanich area. This was the first account and is still used as a reference book. Henry states in his preface, "The aim of this book is to give a brief description of the flowering plants, the ferns and their allies found in Southern British Columbia. Introduced plants that show some tendency to become a permanent part of our Flora are included along with the native plants." Macoun's *Catalogue of Canadian Plants* (1883–90) and the plant collections of J. R. Anderson were also important sources of records. Henry's *Flora* deserves full credit, for, at that time, there were no herbaria established in British Columbia and the descriptions of plants were to be found scattered throughout many books and publications. It should be noted that the original suggestion which led to the publication of Henry's *Flora* was made by Alexander Robinson, Superintendent of Education, who felt that such a text should be in the schools.

A supplement to Henry's *Flora of Southern British Columbia* by J. W. Eastham was printed in 1947 as a special publication by the Provincial Museum, Victoria, B.C. Additional species were added from records in the herbaria at the Provincial Museum at Victoria, the University of British Columbia at Vancouver, and others. Eastham's supplement spanned the 32-year gap since publication of Henry's *Flora*, added the description of many species, made corrections, and brought the taxonomy up to date. Eastham emphasized that the supplement be considered an interim publication only and that a new edition of the *Flora* be undertaken in the future.

In recent years, relatively little has been added to the flora of the Saanich Peninsula. George A. Hardy (1957) published a paper entitled: "Notes on the Flora and Fauna of the Blenkinsop Lake Area on Southern Vancouver Island, British Columbia", with an annotated list of 238 vascular plants. Blenkinsop Lake lies some 4 miles north of the City of Victoria, at an elevation of 83 feet above sea-level. The lake is approximately one-half mile in length, one-quarter mile in width, and covers 8 acres. When Hardy's paper was written, the southwest margin was bounded by a row of 21 Sitka spruce trees (*Picea sitchensis*), which merged on the southwest into a stand of western hemlock (*Tsuga heterophylla*), red cedar (*Thuja plicata*), and balsam fir (*Abies grandis*), which are replaced on the higher land by Douglas fir (*Pseudotsuga menziesii*) and Garry oak (*Quercus garryana*). When referring to the Sitka spruce, Hardy (op. cit.) stated that one or two trees reached an estimated height of 100 feet and measured 42 inches in diameter, 3 feet from the ground. He observed that this was a unique stand on the peninsula. However, since Hardy's publication, all the trees referred to have been cut down. The main biological interest surrounding the Blenkinsop Lake area is the large amount of peaty subsoil; a relic of the colder climate that once was prevalent over most of the Province. Also, on the southern end there remains a wealth of marine shells embedded in the clayey matrix. As the Blenkinsop Lake area has changed considerably and will eventually be completely developed, Hardy's floristic records are of great interest and value to present-day studies.

In the *Naturalist's Guide to the Victoria Region (Bird, Rock, Plants, Sea Life)* (1967), prepared by the British Columbia Nature Council through the Victoria Natural History Society, Miss M. C. Melburn contributed an article entitled "Botanizing on Southern Vancouver Island." This work discusses the general aspect of vegetation, a few of the most characteristic species, and the important habitats of the area. This same author also compiled a list of lichens, ferns, and flowering plants for an article entitled "Natural History of Thetis Lake Area Near Victoria, British Columbia" which was published in the 1965 Annual Report of the Provincial Museum.

The first plant records in the Provincial Museum were compiled from collections made during the Capt. John Palliser British North America Exploring Expedition in 1858. These plants were most likely collected by Eugene Bourgeau (1813–77), who botanized the area for Hooker. The collection, dated January 1861, was given to Sarah Crease, a member of a well-known family in Victoria. Included in this collection were many interesting records from the Saanich Peninsula, but as the data were often incomplete or vague, they were not included in our present work.

In 1873, J. J. Cowley exhibited a collection of plants at the Second British Columbia Agricultural Society Provincial Exhibition. This collection was entitled "Native Plants, Mainland and Island" and received first prize for two consecutive years. This collection has a number of records from the Saanich Peninsula, the most interesting being *Cypripedium montanum*.

Considerable collecting was done during the first two decades of the 20th century. One of the more important contributors was W. R. Carter, who did most of his collecting on Vancouver Island, assisted by C. F. Newcombe, who collected on Vancouver Island and the Queen Charlotte Islands. Other prominent collectors were J. M. Macoun, Chief of the Biological Division of the Geological Survey, Ottawa, and J. R. Anderson, who intensively collected in Victoria and the Saanich Peninsula. W. B. Anderson, J. K. Henry, and W. A. Newcombe also made substantial contributions in this field. Many others collected sporadically in this area, but, unfortunately, most of their collections were sent out of the Province to institutions such as Kew and the British Museum in London, the National Museum in Ottawa, the Gray Herbarium, Harvard University, Cambridge, Mass., and the University of California. Records of some of the earliest explorers and botanists were published in various floras, and this information has been of invaluable help when referring to distribution of western species.

One of the most outstanding of the present-day collectors is Miss M. C. Melburn, of Victoria. The Melburn herbarium, started in 1953, is a large private collection pertaining to the flora of the Saanich Peninsula. This collection has contributed many new records and we were indeed fortunate to have unlimited access to this fine herbarium.

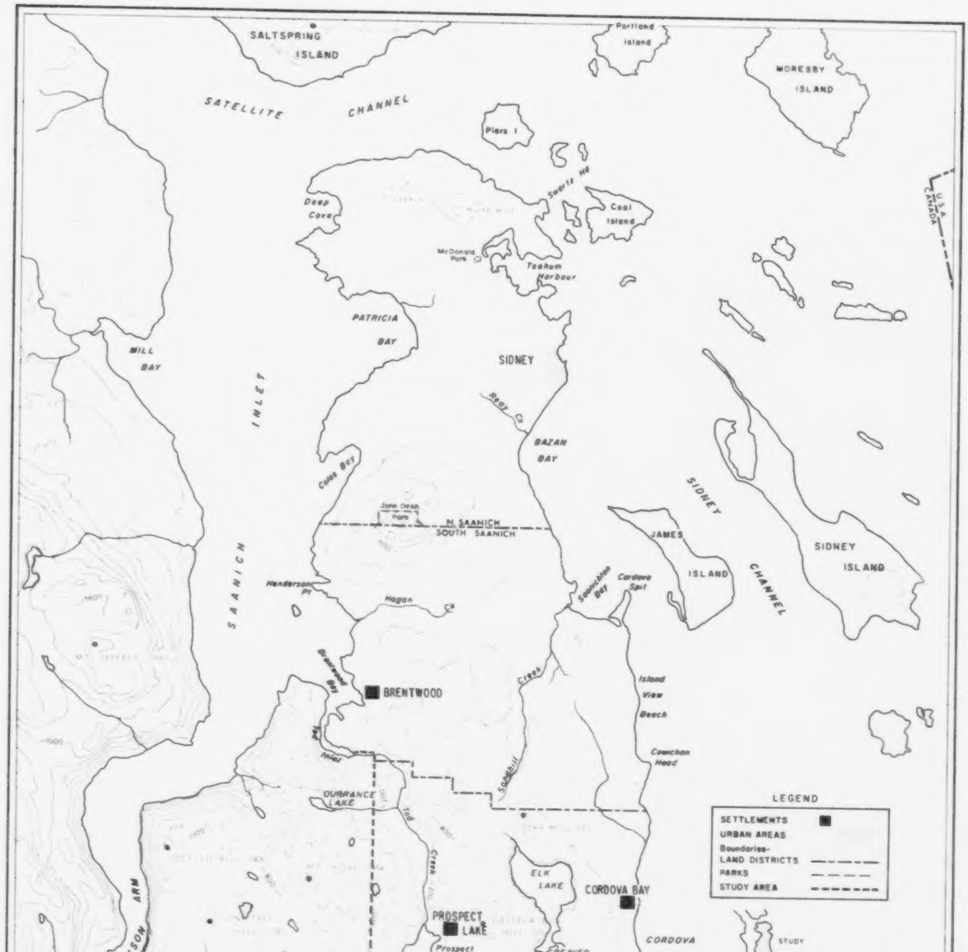
Another prolific collector was the late George A. Hardy, former Curator of Botany at the Provincial Museum, Victoria. During his many years of work, he contributed some 5,000 plants to the herbarium at the Museum and his important records were published yearly in the Provincial Museum Annual Report and other publications.

TOPOGRAPHY

The Saanich Peninsula, a hilly lowland, is on the southeastern tip of Vancouver Island. The Vancouver Island Ranges rise to the west, while to the east and south are two large water bodies, the Strait of Georgia and the Strait of Juan de Fuca respectively. On Mainland British Columbia adjacent to the Strait of Georgia is a high range of mountains, the Coast Range, which has some influence on the peninsula's winter climate. In Washington State, south of the Strait of Juan de Fuca, are the Olympic Mountains which, with the Vancouver Island mountains, largely account for the climate found on the Saanich Peninsula.

The topography of the Saanich Peninsula has resulted from differential erosion of the bedrock which underlies the area. Prior to erosion the rocks were greatly deformed by folding, faulting, and metamorphism. During the late Mesozoic and early Tertiary these deformed rocks were reduced to a surface of low relief. An uplift of this early Tertiary peneplain initiated a preglacial cycle of erosion which dissected the peneplain and produced a topography of moderately strong relief, leaving, in places, flat or gently sloping remnants of the ancient surface. The Tertiary erosional period was succeeded by the Pleistocene glacial epoch, during which the Saanich Peninsula was over-ridden by several glaciers.

The Saanich Peninsula, as a result of this erosional history, is a reasonably level lowland consisting of low, rocky hills, broad valleys, small lakes, and local streams (Fig. 3).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McDonald Park
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Brentwood Bay
BRENTWOOD
Island View Beach
Tod Inlet
Cowichan Head
DURRANCE LAKE
Tod Creek
Colquitz
Mt. Jeffrey
ELK LAKE
CORDOVA BAY
PROSPECT LAKE
Prospect Lake
BEAVER LAKE
CORDOVA BAY
HIGHLAND LAKE
FINLAYSON ARM
HARO STRAIT
ROYAL OAK
Gordon Head
Mount Douglas Park
VICTORIA
Blenkinsop Lake
GOLDSTREAM RIVER
Thetis Park
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ESQUIMALT
Portage Inlet
Gorge
River
Langford Lake
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Esquimalt
Cadboro Bay
Uplands Park
Cattle Pt
COLWOOD
Esquimalt Lagoon
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VICTORIA
Oak Bay
ROYAL ROADS
Victoria Harbour
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SETTLEMENTS
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Boundaries-LAND DISTRICTS
PARKS
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A. S. HARRISON

Fig. 3. Map of the Saanich Peninsula. The contour interval is 200 feet.

At the northern tip of the peninsula is an east-west ridge of resistant shales and sandstones known as Cloake Hill (460 feet). Just south of it is Mount Newton, a large, broad-based, granitic rock body the summit of which is 1,000 feet a.s.l. Some other hills of the peninsula, roughly conical in outline and smoothed and rounded by glaciation, include Bear Hill (718 feet), Observatory Hill (732 feet), Mount Douglas (723 feet), Christmas Hill (337 feet), Mount Tolmie (388 feet), Gonzales Hill (215 feet), Mill Hill (620 feet), and Seymour Hill (460 feet).

The Highlands occupy the western part of the Saanich Peninsula. The land is steep, rocky, and thinly mantled with soil; many places are Core. The elevation and relief are greater than on the lowland, the highest mountains are Mount Work (1,400 feet) and Mount Finlayson (1,300 feet).

Between the northern two-thirds of the Saanich Peninsula and the remainder of southeastern Vancouver Island is a fiord, Finlayson Arm. It is deep, steep-sided, and was likely produced or enlarged during the Pleistocene ice age. Its southern end emerges from below sea-level to become a canyon-like valley, containing the Goldstream River.

The hills of the Saanich Peninsula are mainly exposed bedrock and the lowlands and valleys are unconsolidated material deposited during the ice age. Only local soil has developed on the bedrock since it was left clean by the ice, and extensive areas of fertile soil have developed on the unconsolidated material.

GEOLOGY

A. Bedrock

The northern tip of the peninsula is sandstone and shale, part of the Upper Cretaceous Nanaimo group. These are relatively soft rocks which break into flagstones and fine rubble. Mount Newton is composed of granitic rock and widely spaced joint planes forming large, rounded, moss-covered outcrops with little or no soil. The Highlands and the small hills in the Victoria area are mainly metamorphic and volcanic rocks with an irregular, vague banding and a complex jointing. Closely spaced cracks produce uneven surfaces with local soil collecting in the clefts. Most of the bedrock surface is more or less polished and grooved by the ice which rode over the rocks from north to south. Grooves are apparent on many outcrops which are often streamlined, having low, rounded surfaces facing north and abrupt fractured cliffs on the south.

B. Unconsolidated Deposits

These are found on the lowlands between the hills and rocky outcrops. They include:

(1) Clay mainly laid down on the sea bottom. Much of the present land surface has been below sea-level at some time in the past.
(2) Sands and gravels deposited by ancient rivers, usually of glacial meltwater.
(3) Drifts of till which were deposited directly by ice.

Clays constitute the largest area of surficial deposits on the peninsula. North of a line joining Brentwood and Cowichan Head, clay is found almost to the exclusion of all other types. South of the line, clays still predominate but there are more extensive deposits of gravels and drift. Most of the drift is found in an area west and northwest of Elk Lake; a band also exists around the eastern foot of Mount Newton. Sands and gravels occur in Central Saanich as two long ridges. One is just west of Island View Beach and extends for 3 miles from Saanichton Bay to Cowichan Head. The largest ridge of the two runs from the eastern foot of Mount Newton southeast past Bear Hill and Elk Lake to Mount Douglas. In addition to these ridges, a rectangular area of sands and gravels measuring approximately 3½ by 1¼ miles is found between Cordova Bay and Cadboro Bay. Small pockets of swamp and beach alluvium are found locally on the peninsula.

C. Glacier History

Although glaciation is the most recent factor influencing the geography of the peninsula, the glacial history is incompletely known. The description given here is based on the work of Clapp (1913), one of the earliest investigators, and the more recent publications of Halstead (1968) and Armstrong *et al.* (1965).

The earliest glaciation of which there is direct evidence on Vancouver Island took place more than 30,000 years ago and was probably a piedmont type of ice sheet which rounded even the highest hills. North-south valleys in particular were maturely glaciated, some of them being converted into small lakes, rocky basins, and fiords. Most of the rock-bound lakes of the Highlands and Prospect Lake were formed this way.

The earliest glaciation was followed by a period known as the Olympia Interglacial when the Saanich Peninsula was completely free of ice and was partly submerged below sea-level. Deposits formed during the earliest glaciation and the Olympia Interglacial period are found only in the subsurface in excavations and in sea cliffs.

The last period of advancing ice in southwestern British Columbia, known as the Fraser Glaciation, began with the growth of large alpine glaciers in the mountains of Vancouver Island and northwest Washington. At the same time, in the mountains of the western Mainland of British Columbia, expansion of alpine glaciers led to the development of an ice sheet which covered all of the Cordillera. On Vancouver Island a valley glacier, the Cowichan Ice Tongue, occupied the Cowichan valley and flowed out of it to the southeast, eventually over-riding part of the Saanich Peninsula. It reached Mount Newton in the north and Bear Hill in the south, but left little material as terminal or lateral moraines. Extensive deposits of sand and gravel were built up by melt-water streams emanating from the terminus and sides of the ice tongue. These deposits, up to 100 feet thick, are found widely on the peninsula. In addition, a stream flowing southward from Finlayson Arm through Goldstream Canyon created a large delta in the area of Langford and Colwood. This delta (Colwood delta) is composed mainly of sand and gravel and has a flat surface about 200 feet above sea-level on which are preserved the bed of an ancient river and a number of deep holes (kettles) formed by the melting of ice chunks embedded in the gravel.

Sometime after the advance of the Cowichan Ice Tongue, a continental ice sheet occupied the Strait of Georgia, burying the Gulf Islands and adjacent Vancouver Island. Whereas the Cowichan Ice Tongue had been contained and guided by the Cowichan Valley and the higher hills of the Saanich Peninsula, this piedmont glacier, 5,500 to 6,000 feet thick, over-rode the entire peninsula, including the foot of the ice tongue. Much of the previously deposited drift was removed, and that which remained was heavily modified into drumlin-like ridges. James Island is formed by one of these ridges; one occurs just west of Island View Beach and there is one on each side of Elk Lake. In the "lee" of some of the hills, notably Mount Douglas and Mount Tolmie, esker-like ridges have been formed where the drift was protected from glacial action. Some lakes on the Saanich Peninsula can also be attributed to this glaciation. Elk Lake, as well as Lost and Swan Lakes, are in depressions grouped in the drift mantle, and Thetis Lake occupies a rock valley dammed with drift.

About 12,000 years ago Victoria and Saanich were free of ice again and partly under the sea. Extensive deposits of marine clay, some of it containing stones transported by floating ice, were deposited in shallow depressions which are now above sea-level. As the land emerged from the ocean, wave action cut away the various glacial deposits to form steep cliffs. These are apparent at Colwood at the outer edge of the Colwood delta, between Cordova Bay and Island View Beach, and on the south end of James Island. Characteristic beach formations accompany each of these gravel cliffs. Near Colwood, material eroded from the cliff is carried north by the waves and tides to form a spit stretching up to a mile or more away from the cliff. Esquimalt Lagoon has formed behind the spit at Colwood, while a salt marsh has developed behind Cordova spit and Island View Beach. This was probably a lagoon in the past, but has been drained by a slight uplifting in fairly recent times.

Some of the shallower basins in the unconsolidated deposits that were formerly ponds and small lakes have now filled with swamp alluvium and become marshes (Rithet Bog near Royal Oak). Swamp alluvium has also collected in several large valleys on the Saanich Peninsula (Tod Creek, north of Prospect Lake; Michell Valley, West of Island View Beach; and Maber's Swamp, near Keating) and has contributed to their value as farm land.

SOILS

The soils of the Saanich Peninsula are developed mostly on marine sands and gravels. They were deposited in the ocean by glacier and river action and have been exposed in recent times by an uplifting of the land surface. Wave action on slopes and hilltops while the land was depressed has affected the distribution of the different textured materials. Generally, the fine-textured deposits have been moved to the lowlands, forming a mantle 5 to 30 feet thick, leaving the coarser material on the slopes as a layer 1 to 5 feet deep. The seven most abundant soil series on the Saanich Peninsula are described in Table 1.

Table 1—Soil Series on the Saanich Peninsula

Category	ACID DARK-BROWN FOREST	BLACK			DARK-GREY GLEYSOLIC		BROWN PODZOLIC
	Saanichton	Cadboro	Langford	Esquimalt	Tolmie	Cowichan	Shawnigan
Parent material	fine-textured marine base	gravelly sandy loam till	coarse marine material on glacial till	coarse material	fine-textured material on marine clay or glacial till	fine marine material	compact gravelly sandy loam glacial till, with cobbles and stones.
Texture	clay	gravelly sandy loam	loam and sandy loam	gravelly sandy loam	sandy clay loam	clay loam (clay)	gravelly sandy loam.
Vegetation	fir (arbutus, maple, alder), salal, oregon grape, rose, bracken	oak-grass assoc. (fir-grass) (fir, hemlock, maple, alder)	oak-grass assoc. (grass on southern exposure)	open fir, scattered oak (grass, bracken)	fir, maple, willow (oak), shrubs, ferns, bracken	cedar, hemlock, alder, maple (logged off), now alder, willows, maple	second-growth fir, balsam, hemlock, alder, maple with shrubs.
Topography	gently sloping	rolling	gently sloping to sloping	gently sloping to level	level to depressional (gently sloping)	very gently sloping to level	rolling morainic to steeply sloping.
Drainage	well drained	well drained	well drained	rapidly drained	poorly drained	poorly drained	well drained but with lateral movement in winter and spring.
Utilization	some of best agricultural soil on V.I.; high percentage in crops	good for agriculture, now being taken over by urban housing	much in urban housing; some in cultivation	ideal for agriculture, largely used for urban and rural housing	good for agriculture, some drainage necessary	fairly good for agriculture, better when drained	suited to timber production, but some under cultivation.

Based on: Day, Forstad & Laird (1959).

CLIMATE

The climate of the Saanich Peninsula, southeastern Vancouver Island, and the Gulf Islands is classed by Köpper as Cool Summer Mediterranean (cfb). The distinguishing features are very mild winters, cool summers, and a low annual rainfall. An interesting fact is that this type of climate occupies less than 1 per cent of Canada, where it is found only in British Columbia, and there chiefly within 50 miles of the Pacific Ocean (Calder & Taylor, 1968). The location of this climate type at approximately 48°30′ north latitude marks the most poleward excursion of Cool Summer Mediterranean climate in the northern hemisphere.

The climate of the Saanich Peninsula is in many ways similar to that of the northern Mediterranean, although the summer temperatures are somewhat lower. The drought in summer, however, is just as pronounced, the average rainfall for July and August being not more than 1.6 inches. The very low annual rainfall (average 30.8 inches) is due to the location of the peninsula in the rain shadow of the Olympic and Insular Mountains. On the seaward (west) sides of these ranges precipitation is very high, ranging from 72 inches at Jordan River near the south end of the Island to 169 inches at Holberg in the north. A station at Henderson Lake near Barkley Sound once recorded an annual total of 252 inches.

Another climatic characteristic is the high annual totals of sunshine recorded on the peninsula, most of it received in the summer. Victoria's average of 2,207 hours is the highest in the Province and very nearly the highest in Canada.

Warm winters and relatively cool summers are typical; the mean annual temperature is between 49 and 50°F on the peninsula. The seasonal temperature variations between winter and summer are not large. This reflects the modifying influence of the Pacific Ocean, resulting in a January mean of 37–40°F and a July mean of 60–64°F. Mild winters are usual (the mean minimum is nowhere below 32°F) and outbreaks of cold weather are infrequent. When they do occur it is the result of cold, dry Polar Continental air spilling westward over the Rocky and Coast Mountains. However, the area's maritime nature is demonstrated again in the diminished severity of these outbreaks. Consequently, the mean lowest extreme temperatures are above 20°F. Winter snowfall is between 10 and 15 inches, depending upon the station's proximity to the ocean.

Associated with the mild climate is a long, frost-free period of over 200 days. Victoria records 275 days, one of the longest periods in Canada.

Table 2 gives representative climatic data for eight Saanich Peninsula stations.

The Saanich Peninsula experiences relatively windy conditions. The average wind speed at Patricia Bay during the period 1941–54 was 6.2 m.p.h., while at Gonzales Heights (1939–54), it averaged 11.1 m.p.h. During June, July, and August the wind at Gonzales Heights blows from the southwest nearly 50 per cent of the time (47 per cent in July), but in the winter it is mainly from the north (27 per cent in December and January). Calm conditions prevail for less than 1 per cent of the time during the year and never comprise more than 3 per cent of any one month. Such facts are not surprising when the peninsula's geographic location is considered. It is exposed on two sides by long, narrow arms of the sea—the Strait of Juan de Fuca and the Strait of Georgia—

Table 2—Sunshine, Temperature, and Precipitation Data for Eight Stations on the Saanich Peninsula

	Years[1]	Elev. (Feet)	Mean Sunshine (Hours)	Temperature (°F)			Precipitation[2] (Inches)		Winter Snowfall (Inches)
				Annual Mean	Jan. Mean	July Mean	Annual Mean	July, Aug. Mean	
Airport, Sidney (Patricia Bay)	25	67	......	50	37	62	33.58	1.74	17.1
Saanichton (C.D.A.)	30	200	2,065	49	38	62	32.98	1.72	13.9
James Island	30	176	......	50	39	62	29.32	1.56	11.0
Cordova Bay	14	115	......	50	39	61	33.63	1.67	13.5
Elk Lake	6	330	......	50	39	64	36.33	1.64	11.4[2]
Observatory	30	740	......	50	37	64	29.97	1.25	20.7
Victoria (Gonzales Heights)	30	228	2,207	50	39	60	27.35	1.28	11.6
Victoria (Tillicum)	9	40	......	50	40	63	33.20	1.63	10.7
Average	....	......	......	....	....	....	>30.8	>1.56	>13.7

Adapted from *Climate of British Columbia*, Report for 1966, Province of British Columbia, Department of Agriculture.

[1] Years column indicates the number of years used in computing the averages.

[2] Precipitation figures obtained from an eight-year average.

both of which are flanked by mountains rising to at least 4,000 feet. These natural channels likely divert and modify the normal airflow over southwestern British Columbia, so producing the windy conditions found in the Victoria region.

Average wind speed and extreme wind speeds are given in Tables 3 and 4.

Table 3—Average Wind Speed in Miles per Hour

GONZALES HEIGHTS: 1939-54

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
North	10.3	10.3	10.4	9.0	8.7	6.5	6.3	6.5	7.5	9.0	9.9	10.1	......
Northeast	10.9	9.2	8.6	7.7	7.4	5.5	6.4	6.4	6.6	7.3	8.6	9.8	......
East	8.7	7.8	7.2	7.0	6.3	6.9	4.7	4.9	5.5	6.5	7.2	8.6	......
Southeast	15.7	14.2	13.7	10.8	7.3	9.5	5.3	5.3	7.3	10.7	16.0	16.4	......
South	11.1	7.9	8.6	8.0	8.3	7.6	8.4	8.0	7.4	7.7	10.2	10.7	......
Southwest	19.0	17.7	14.5	14.7	13.6	13.2	13.7	12.5	10.7	11.9	18.4	19.7	......
West	16.0	14.5	14.5	14.1	13.9	14.2	12.9	12.2	11.5	13.0	14.4	15.1	......
Northwest	7.3	6.7	6.5	6.1	5.2	23.6	3.7	4.4	4.8	5.4	7.5	7.1	......
All directions	12.2	11.4	11.5	11.3	11.3	11.8	11.5	10.3	8.6	9.3	11.7	12.4	11.1
PATRICIA BAY: 1941-54													
All directions	7.1	6.7	6.7	6.6	6.2	5.8	5.8	5.2	5.0	5.5	6.5	6.9	6.2

Table 4—Wind Extreme Values

	1939-59 Gonzales Heights	1939-59 Patricia Bay
Maximum observed hourly speed	68	48
Maximum observed gust speed	80	79
Most probable gust speed	102	78

The Saanich Peninsula is slightly less humid than most coastal stations, especially those on the west coast of Vancouver Island and the Queen Charlotte Islands. Stations there are fully exposed to the moist on-shore flow of air from the Pacific Ocean, whereas the peninsula experiences a flow of drier air due to its rain-shadow location. The mean relative humidity at Patricia Bay, near Sidney, ranges between 75 per cent in June and July and 89 per cent in December. Similar conditions are experienced by the station at Gonzales Heights, east of Victoria City. Table 5 illustrates the average monthly relative humidity at Patricia Bay for the period 1941–50.

Table 5—Average Monthly Relative Humidity at Patricia Bay

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
87	85	80	78	?	76	75	76	78	84	88	89

The climatological data were adapted from the Canada Department of Transport, Meteorological Branch, Climatology Division.

ECOLOGY

Very little information has been available concerning the ecology of the Saanich Peninsula. Hamit-Ahti (1965), in a preliminary outline of the vegetation zones and sections of British Columbia, places the Saanich Peninsula in summer-dry boromeridional section (sdBM) of the Boromeridional zone, which occupies the southeast side of Vancouver Island and the Gulf Islands. The peninsula is placed by Rowe (1959) in the "Strait of Georgia Section" of the Coast Forest region. This section includes the islands of the Strait of Georgia, adjacent east coast, and southeast coast of Vancouver Island. The most characteristic plant indicators for this section are two tree species not found elsewhere in Canada, namely *Arbutus menziesii* and *Quercus garryana*. According to Rowe (op. cit.) the area is related physiographically and climatically to the broad depression south of the

International Boundary, the coastal trench between the Cascade and Olympic Mountains, and it is influenced by the summer-dry maritime climate. Krajina (1959, 1965) successfully outlined the major biogeoclimatic divisions for British Columbia, with seven biogeoclimatic regions and eleven zones, each with its own climatic climax plant association, zonal combination of plant indicators, soils, topography, and climate. He concludes that biogeoclimatic zones are geographical segments of the earth's climate, soil, and biota that are characterized by the same general macroclimate and the same zonal soil and biota (phytocœnosis and zoocœnosis).

The Saanich Peninsula ecologically is located in Krajina's "Coastal Douglas fir Zone" of the Pacific coastal mesothermal forest, which he divided into two subzones—drier of "Garry oak-Douglas fir" with annual precipitation 26–40 inches; and wetter of "Madrono-Douglas fir" with the annual precipitation 40–65 inches. Coastal Douglas fir zone occurs on the leeward (rain shadow) side of Vancouver Island (southeastern part of the Island, 0–1,500 feet), on islands in the Strait of Georgia and in the lowest altitudes (0–300 [–500] feet), on the Mainland of the Georgia Strait and in the Fraser River Delta. Climatic climax for the drier subzone is *Pseudotsuga menziesii-Mahonia nervosa-Eurhynchium oreganum* plant association (*Pseudotsugeto-Mahonietum nervosæ*) and for the wetter (*Pseudotsuga menziesii-Gaultheria shallon* plant association (*Pseudotsugeto-Gaultherietum shallonis*). It is possible to distinguish a number of phases within each of the subzones correlated with habitats and soils. For example, the dry most xeric habitat of rocky outcrops is characterized by a higher proportion of Garry oak, xerophytic bryophyta, and herbal species such as *Pityrogramma triangularis, Camassia quamash, C. leichtlinii, Fritillaria lanceolata, Erythronium oreganum, Dodecatheon hendersonii, Collinsia grandiflora, C. parviflora, Sisyrinchium douglasii, Plectritis congesta, Zygadenus venosus* being the most characteristic indicators. In the wetter habitat of the same subzone progressively Douglas fir and *Arbutus* occur. Soils in this subzone are shallow, dry, reddish-brown in colour, with weak podzolization and faint laterization.

Krajina's (op. cit.) wetter subzone, with annual precipitation 40–65 inches, has a relatively common moisture requirement in species such as *Arbutus menziesii, Thuja plicata, Pinus monticola, Pinus contorta, Cornus nuttallii, Gaultheria shallon* among the woody plants, and *Achlys triphylla, Tiarella trifoliata, T. laciniata, Listera cordata, Goodyera oblongifolia,* and *Polystichum munitum* among the herbs.

Most of the area of study lies ecologically and climateologically mainly in Krajina's "Garry oak-Douglas fir" subzone, except such areas as Goldstream, Thetis Park, and Langford, which are on the border or represent various degrees of intergradiation between those two subzones. Definition of boundaries would require a thorough study, supported by floristic and environmental data.

Hagmeier (1966), in the section on ecology in *Natural History of Thetis Lake Area Near Victoria, B.C.*, states that "Garry oak generally occurs in regions where summer rainfall is less than 10 inches, and where soils are loamy and well drained, either because they overlay bedrock or outwash sand or gravel." Arbutus tends to occur on slightly wetter sites. Most tree species other than the preceeding are relatively intermediate (mesic) in moisture requirements.

It is known that each species has a specific environmental requirement, and those with similar form units are known as plant communities. Each such community has a definite floristic structure, occurrence, abundance, dominance, constancy, and vigour of plants which, although partially influenced by historical factors of plant distribution, reflects certain ecological conditions which are in equilibrium. Distribution of communities is correlated with a number of environmental factors such as climatic factors, soils, exposure, shade tolerance, and history.

As this paper is not of an ecological nature, the classification of plant communities is not discussed in detail. However, from observations during the floristic work on the peninsula, the authors tentatively suggest the following classifications of plant communities occurring on the peninsula:

(1) *Quercus garryana-Rhacomitrium canescens*—a bryophytic community with *Rhacomitrium canescens* as a dominant.

(2) *Arbutus menziesii-Pseudotsuga menziesii*—a community that forms parkland-like forest and develops on relatively shallow, dry soils. Drier habitats have a higher proporation of Garry oak and, on the wetter ones, Douglas fir is a dominant tree. *Holodiscus discolor, Erythronium oreganum, Polypodium vulgare,* and *Sedum spathulifolium* are the most important components of shrub and herb layers.

(3) *Gaultheria shallon-Pseudotsuga menziesii*—forms rather a dry, open forest community with Douglas fir being the dominant tree; *Gaultheria shallon, Lonicera ciliosa, Goodyera oblongifolia, Calypso bulbosa,* and *Corallorhiza maculata* are the most important components of the shrub and herb layer. Soils are deeper, and have a tendency to podzolization.

(4) *Eurhynchium oreganum-Pseudotsuga menziesii*—form mesic to moist forest community with the dominance of Douglas fir in the tree layer, *Mahonia nervosa* in shrub layer, and mosses like *Eurhynchium oreganum* and *Hyloconium splendens* on the ground layer. The soils are podzolized and to some small extent gleyed.

(5) *Polystichum munitum-Pseudotsuga menziesii*—occurs in the wetter habitats on strongly gleyed concretionery, reddish-brown soils which support the best growth of Douglas fir. *Thuja plicata, Abies grandis,* and occasionally *Tsuga heterophylla* on decaying wood are the associated tree species, and in the herbal layer *Polystichum munitum* is the most important component. This community constitutes a good timber stand and the best agricultural soil on the peninsula.

(6) *Lysichitum americanum-Thuja plicata*—forms a hygric community on wet mucky gleysoil, with *Lysichitum americanum* being the most characteristic plant. A number of variations of this community may be found which, in most cases, represents different edaphic conditions.

Vegetation of the Saanich Peninsula should be the subject of separate studies so badly needed, but it is not a primary objective of this paper.

VEGETATION

The Saanich Peninsula is located in British Columbia's most westerly dry belt. The Olympic Mountains of Washington State and the ranges of Vancouver Island cast a dry "rain shadow" which extends over the peninsula and is responsible for rather low rainfall, much of which falls in winter as a result of a succession of Pacific storms. This dryness is particularly prominent in places exposed to strong winds, which are frequent on the peninsula and can support a number of xerophytic species such as cactus (*Opuntia fragilis* (Nutt.) Haw. and *O. polyacantha* Haw.) and balsam root (*Balsamorhiza deltoidea* Nutt.), to mention three. In general characteristic the area has a unique vegetation with an abundance of species such as arbutus, Garry oak (Fig. 4), dogwood, hairy manzanita, and many others. In a few places one still can find reasonably undisturbed Garry oak parkland with virgin plant association. The largest and best preserved Garry oak community is located in the Uplands Park and consists of some 75 acres of good mature oak stand (Fig. 5). Miss M. C. Melburn, who intensively collected this area for many years, reported 243 species of vascular plants from a plot of approximately 12 acres located within the park at Cattle Point (Fig. 6). A number of rare and interesting species like *Alopecurus carolinianus* Walt., *Limnanthes douglasii* R. Br., *L. macounii* Treal., *Allium geyeri* S. Wats., *Mœnchia erecta* (L.) Gaertn., *Cerastium semide-candrum* L., *Myosurus minimus* L., *Ranunculus alismæfolius* Geyer ex Benth., *Teesdalia nudicaulis* (L.) R. Br., *Vicia lathyroides* L., *Perideridia gairdneri* (H. & A.) Math., *Orthocarpus faucibarbatus* Gray ssp. *albidus* Keck., *O. castillejoides* Benth., *Plantago elongata* Pursh, *Aster curtus* Cronquist, *Centaurium exaltatum* (Griseb.) Wight ex Piper, *Microseris bigelovii* (Gray) Shultz-Bip., *Silybum marianum* (L.) Gaertn., *Psilocarpus elatior* Gray, *Hordeum pusillum* Nutt., and a number of others are either restricted to this small area or very rarely occur elsewhere on the peninsula.

Thetis Park is also botanically interesting. Among the most significant species are *Boisduvalia stricta* (Gray) Greene, *Navarettia intertexta* (Benth.) Hook., *Viola howellii* Gray, *V. nuttallii* Pursh var. *præmorsa* (Dougl.) Wats., and *V. canadensis* L. var. *rugulosa* (Greene) C. L. Hitchc., which was not collected since 1912.

Some other species of importance are *Commandra umbellata* (L.) Nutt. var. *californica* (Eastw.) C. L. Hitchc., known from Victoria, Elk Lake, and the Langford area; *Allotropa virgata* T. & G. ex Gray, a saprophytic species first collected by J. R. Anderson in 1898 in the Highland district, and again recently in Goldstream Park; *Pterospora andromedea* Nutt., known only from dry, open coniferous forest in Sidney, Langford, and the Highland district; *Corallorhiza maculata* Raf. var. *flavida* (Peck.) Correll, a rare variety of *C. maculata* known only from the Mount Douglas area; *C. trifida* Chat., collected only once by A. F. Szczawinski in 1958 in the Highland district; *Habenaria*

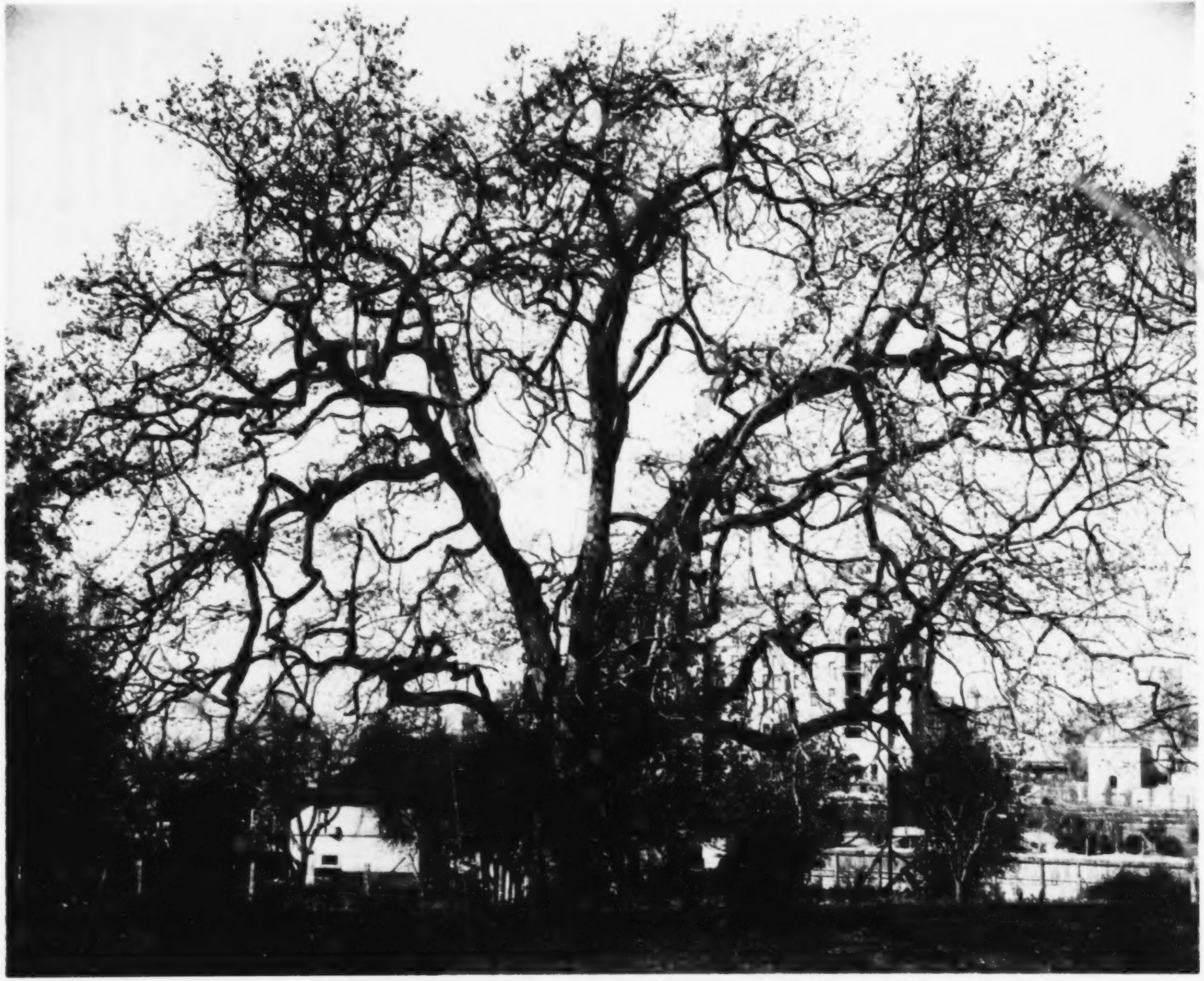


Fig. 4. Garry oak (*Quercus garryana*) in old Douglas estate, corner of Elliot and Belleville Streets, Victoria.

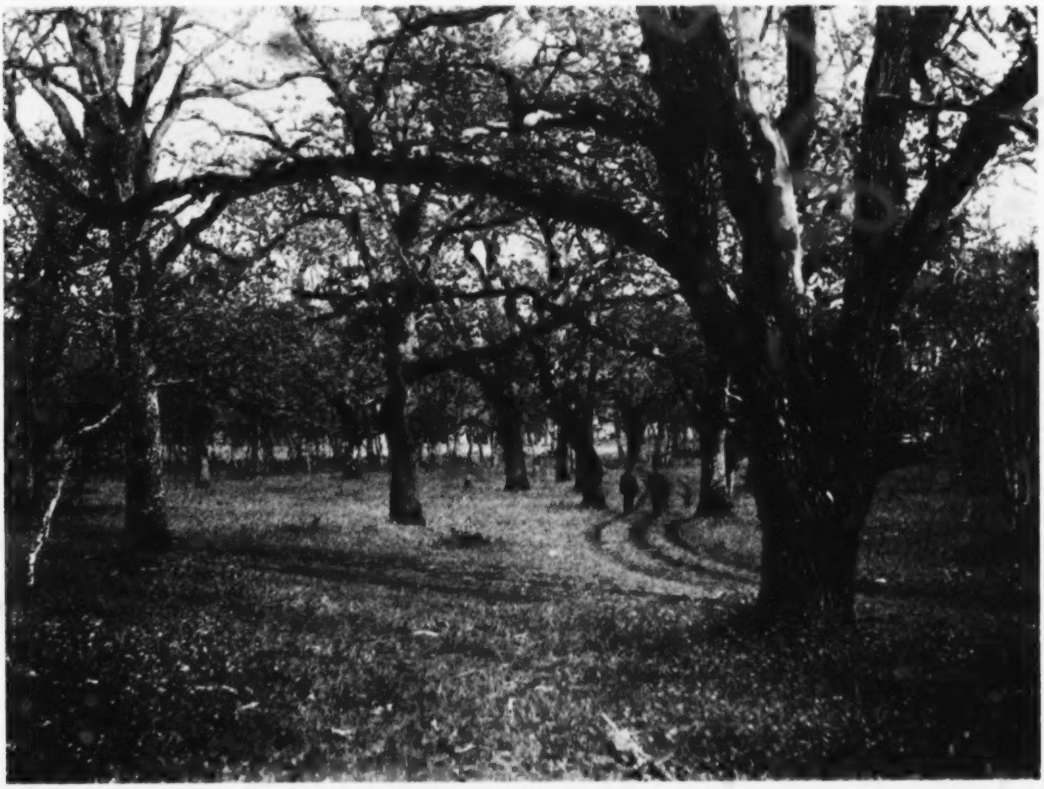


Fig. 5. Mature Garry oak (*Quercus garryana*) stand in the Uplands, Victoria. Photo taken by C. F. Newcombe in 1892.

orbiculata (Pursh) Torr., only known from Thetis Park and collected by H. Toms in 1929, and another orchid, *Cypripedium montanum* Dougl. from Cordova Bay, now believed to be extinct; *Crocidium multicaule* Hook., which is rather rare and was collected recently at Mount Finlayson and a few sandy beaches in the area. Fern species such as *Asplenium trichomanes* L. known only from Shoal Bay where it was found by J. R. Anderson in 1915 and has not been collected since; *Cheilanthes gracillima* D. C. Eaton restricted to Mount Finlayson and recorded by J. R. Anderson in 1897 and 1927; *Dryopteris argenta* (Kaulf.) Walt., listed in Henry's *Flora* as occurring on Mount Finlayson (specimen was not examined), and *Woodwardia fimbriata* J. E. Smith collected by W. A. Newcombe in 1919, which has not been collected since, should be mentioned.

The family represented by the largest number of species is *Gramineæ* (grasses), which consists of 39 genera and 126 species. Grasses on the peninsula require critical study as the number of records was obtained some 50 years ago and many specimens were not obtainable for checking. Species like *Alopecurus carolinianus* Walt., *Bromus latiglumis* (Shear.) Hitchc., *B. carinatus* Hook. & Arn., and *Danthonia spicata* (L.) Beauv. are just a few outstanding records for the peninsula. Forty-four introduced grasses make this family a very interesting one.

The Family *Compositæ*, with 52 genera and 116 species, has 51 introduced species and many of which are spreading as weeds. Records that deserve mentioning are *Crepis intermedia* Gray, *C. modocensis* Greene, *Aster modestus* Lindl., and *Helianthus maximilanii* Schrad., which is only known from the Outer Wharf, Victoria, where it was collected by J. Macoun in 1913.

Analysing the flora of the peninsula, one will find not only a number of rare species but also interesting ones. Once common at Saanich Arm and Swan Lake and recently reoccurring at Prospect Lake and in the Highland district is *Rhus diversiloba* T. & G. (poison oak); *Empetrum nigrum* L.

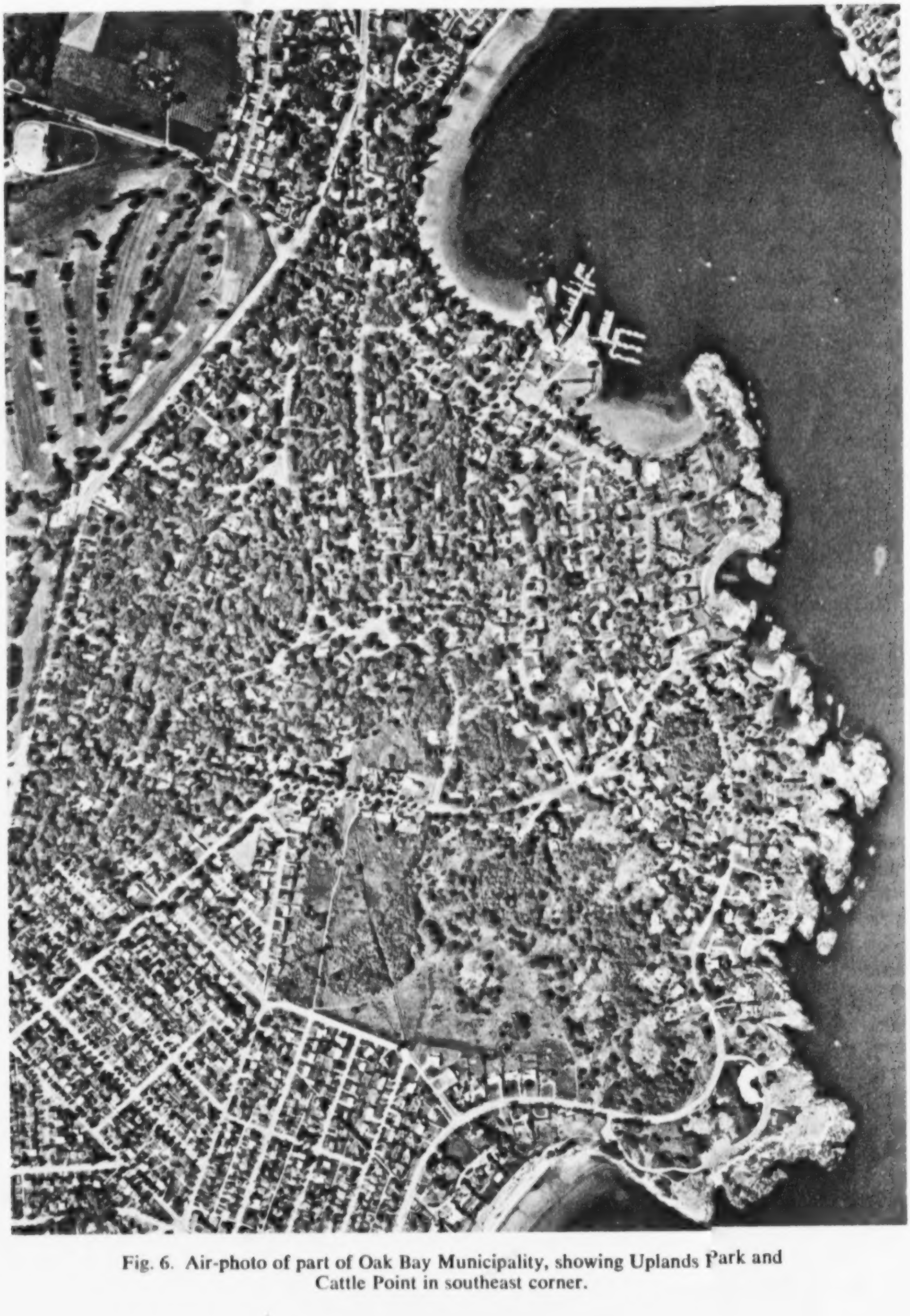


Fig. 6. Air-photo of part of Oak Bay Municipality, showing Uplands Park and Cattle Point in southeast corner.

(crowberry), recorded by C. F. Newcombe in 1924 from Waugh Creek, Goldstream area; *Meconella oregana* Nutt., a member of the Poppy Family which sporadically still can be found in a few areas, and *Caltha asarifolia* DC (marsh marigold), a very attractive member of the Buttercup Family collected in 1958 and 1959 by M. C. Melburn in the Blenkinsop Road area.

Table 6—Families and the Number of Genera and Species

Family	Genera	Taxa		Total	Family	Genera	Taxa		Total
		Indigenous	Introduced				Indigenous	Introduced	
Equisetaceæ	4	4	—	4	Hydrangeaceæ	1	1	—	1
Isoetaceæ	1	1	—	1	Rosaceæ	18	35	9	44
Lycopodiaceæ	1	2	—	1	Leguminosæ	12	29	28	57
Ophioglossaceæ	1	2	—	2	Geraniaceæ	2	2	7	9
Polypodiaceæ	14	16	—	16	Oxalidaceæ	1	—	1	1
Selaginellaceæ	1	1	—	1	Linaceæ	1	1	—	1
Pinatæ—					Euphorbiaceæ	1	1	7	8
Taxaceæ	1	1	—	1	Callitrichaceæ	1	1	—	1
Pinaceæ	4	6	—	6	Empetraceæ	1	1	—	1
Cupressaceæ	3	4	—	4	Limnanthaceæ	1	2	—	2
Alismataceæ	2	2	—	2	Anacardiaceæ	1	1	—	1
Hydrocharitaceæ	2	1	2	3	Celastraceæ	1	1	—	1
Juncaginaceæ	2	2	—	2	Aceraceæ	1	3	—	3
Najadaceæ	1	1	—	1	Balsaminaceæ	1	—	1	1
Potamogetonaceæ	1	6	1	7	Rhamnaceæ	1	1	—	1
Ruppiaceæ	1	1	—	1	Malvaceæ	2	1	4	5
Zosteraceæ	2	2	—	2	Hypericaceæ	1	2	1	3
Juncaceæ	2	15	1	16	Violaceæ	1	11	2	13
Cyperaceæ	7	48	1	49	Cactaceæ	1	2	—	2
Gramineæ	39	72	54	126	Thymelæceæ	1		1	1
Sparganiaceæ	1	3	—	3	Elæagnaceæ	2	1	1	2
Typhaceæ	1	1	—	1	Onagraceæ	6	12	—	12
Araceæ	1	1	—	1	Haloragidaceæ	1	1	1	2
Lemnaceæ	2	3	—	3	Hippuridaceæ	1	1	1	2
Liliaceæ	14	23	—	23	Araliaceæ	2	1	1	2
Iridaceæ	2	3	1	4	Umbelliferæ	17	20	6	26
Orchidaceæ	8	15	1	16	Ericaceæ	12	21	—	21
Salicaceæ	2	7	2	9	Primulaceæ	6	6	4	10
Myricaceæ	1	1	—	1	Oleaceæ	2	1	1	2
Betulaceæ	3	5	—	5	Gentianaceæ	1	1	1	2
Fagaceæ	1	1	—	1	Menyanthaceæ	1	1	—	1
Urticaceæ	1		2	2	Apocynaceæ	2	2	2	4
Santalaceæ	1	1	—	1	Convolvulaceæ	1	2	1	3
Aristolochiaceæ	1	1	—	1	Cuscutaceæ	1	2	—	2
Polygonaceæ	2	10	10	20	Polemoniaceæ	6	9	—	9
Chenopodiaceæ	4	4	5	9	Hydrophyllaceæ	4	7	—	7
Amaranthaceæ	1	2	—	2	Boraginaceæ	9	12	7	19
Nyctaginaceæ	1	1	—	1	Verbenaceæ	1	1	—	1
Portulaceæ	3	10	1	11	Labiatæ	12	6	15	21
Caryophyllaceæ	15	19	24	43	Solanaceæ	4	3	5	8
Nymphaceæ	3	3	2	5	Scrophulariaceæ	13	24	13	37
Ceratophyllaceæ	1	1	—	1	Orobanchaceæ	2	3	—	3
Ranunculaceæ	11	19	3	22	Lentibulariaceæ	1	2	—	2
Berberidaceæ	3	3	1	4	Plantaginaceæ	1	2	2	4
Papaveraceæ	3	2	2	4	Rubiaceæ	3	4	4	8
Fumariaceæ	3	3	1	4	Caprifoliaceæ	5	9	1	10
Cruciferæ	31	20	36	56	Valerianaceæ	2	3	—	3
Resedaceæ	1		1	1	Dipsacaceæ	1		1	1
Droseraceæ	1	1	—	1	Cucurbitaceæ	1	1	—	1
Crassulaceæ	1	4	2	6	Campanulaceæ	3	4	—	4
Saxifragaceæ	7	16	—	16	Compositæ	51	60	52	112
Grossulariaceæ	1	5	—	5	Totals	444	691	333	1,024

Table 7—The 13 Largest Families, With the Number of Genera and Taxa

Family	Genera	Taxa		Total	Family	Genera	Taxa		Total
		Indigenous	Introduced				Indigenous	Introduced	
Graminæ	39	72	54	126	Scrophulariaceæ	13	24	13	37
Compositæ	51	60	52	112	Umbelliferæ	17	20	6	26
Leguminosæ	12	29	28	57	Liliaceæ	14	23	—	23
Cruciferæ	31	20	36	56	Ericaceæ	12	21	—	21
Cyperaceæ	7	48	1	49	Ranunculaceæ	11	19	3	22
Caryophyllaceæ	15	19	24	43	Labiatæ	12	6	15	21
Rosaceæ	19	35	9	44					

FLORISTIC COMPOSITION

The vascular flora of the Saanich Peninsula includes 102 families, 444 genera, and 1,024 taxa (specific and subspecific); 691 taxa are indigenous and 333 introduced to the area. Table 6 lists them by families, genera, and taxa, and Table 7 represents the 13 largest families.

An attempt has been made to summarize under each species its origin relative to the area under study, habitat, and abundance. As to origin, the entries are classified as native or introduced. If the plant were originally absent from the study area, but entered the area since the impact of the white man, it is recorded as introduced. Introduced species are indicated by an asterisk. The statement on habitat is very general and it is based on the authors' observations and field experiences and does not necessarily repeat the habitat data recorded on the specimen. In case of abundance the terms very common, common, frequent, occasional, rare, and solitary are used to describe occurrence of the species in the area of study. The taxonomic description of each species is not included. Such descriptions can be found in a number of existing floras. No attempt has been made to include all synonyms and those listed have been kept to the minimum necessary to establish the relation between this work and the more important floras having a bearing on our region. Common names are used where applicable.

The sequence and nomenclature of the following list is essentially that of *Vascular Plants of the Pacific Northwest,* by C. Leo Hitchcock, Arthur Cronquist, Marion Ownbey, and J. W. Thompson. We were fortunate to have had available this outstanding taxonomic treatment of the vegetation of the Pacific Northwest within which our area of study is located.

As a large number of introduced trees, shrubs, and herbs are in cultivation in the peninsula's agricultural fields, gardens, and parks, there is no doubt that some of them still could become advantageous.

Speculation as to the total number of vascular plants in the flora of the peninsula is difficult to ascertain, and in the future there is doubt that additional records of native species will be added.

ANNOTATED LIST OF SPECIES

EQUISETACEÆ: HORSETAIL AND SCOURING-RUSH FAMILY

***Equisetum arvense* L. Common Horsetail**

Part shade to open places, tolerant of soil conditions; common throughout the area. A cosmopolitan, sometimes weedy species.

***Equisetum hyemale* L. s. lat. Scouring-rush**

Shade to partial shade on moist, alluvial soils and along muddy shores in marshes and bogs; occasional; most common in the Mount Douglas and Goldstream areas; collected by J. Macoun in 1913 at Beacon Hill.

***Equisetum lævigatum* A. Br. Smooth Scouring-rush**

Rare; according to T. M. C. Taylor (1963) in British Columbia this species is found only in the valleys of the Interior from Kamloops southward; in 1956 reported from Prospect Lake by M. C. Melburn.

***Equisetum telmateia* Ehrh. Giant Horsetail**

Swamps, borders of streams, and low, wet ground; frequent in suitable habitats (*E. maximum* Lam.).

ISOËTACEÆ: QUILLWORT FAMILY

***Isoëtes setacea* Lam. Quillwort**

Amphibious or permanently immersed in lakes, ponds, and pools; this species has been known as *I. echinospora* Dur., or as *I. brownii* Dur., but the older name *I. setacea* is valid; Elk Lake and Goldstream areas (*I. muricata* Dur., *I. maritima* Underw.).

LYCOPODIACEÆ: CLUB-MOSS FAMILY

***Lycopodium annotinum* L.** **Stiff Club-moss**

Wet woods; rare; collected by V. E. L. Goddard in 1929 on Horth Hill, north end of Saanich Peninsula.

OPHIOGLOSSACEÆ: ADDER'S-TONGUE FAMILY

***Botrychium multifidum* (Gmel.) Rupr.** **Leathery Grape-fern**

Grasslands and open woods; occasional in suitable habitats; our only evergreen *Botrychium* (*B. silaifolium* Presl, *B. multifidum* var. *intermedium.* (D. C. Eat.) Farwell)

***Botrychium virginianum* (L.) Sw.** **Rattlesnake Fern**

Woods and damp open places; rare; Cadboro Bay, Florence Lake, Esquimalt, and Goldstream areas.

POLYPODIACEÆ: POLYPODY FERN FAMILY

***Adiantum pedatum* L.** **Northern Maidenhair**

Shady places in damp soil, rich in humus; occasional in suitable habitat; represented by var. *aleuticum* Rupr. (*A. pedatum* ssp. *aleuticum* Calder and Taylor)

***Asplenium trichomanes* L.** **Spleenwort**

Cliff crevices and talus slopes; rare; collected at Shoal Bay by J. R. Anderson in 1915, not collected since.

***Blechnum spicant* (L.) With.** **Deer-fern or Hard-fern**

In damp, open, coniferous forests and damp shady places; most common in the Goldstream, Highland, and Langford areas.

***Cheilanthes gracillima* D. C. Eat.** **Lace-fern**

Exposed crevices and ledges of igneous rocks; very rare and decreasing in its occurrence; restricted to Mount Finlayson, where it was collected by J. R. Anderson in 1897 and 1929.

***Cheilanthes siliquosa* Maxon** **Indian's Dream**

Exposed talus slopes and crevices; restricted to Esquimalt, Langford, Goldstream, and Mount Finlayson; fairly abundant in these areas. (*Onychium densum* Brack., *Pellæa densa* Hook., *Cryptogramma densa* (Brack.) Diels)

***Cryptogramma crispa* (L.) R. Br. ex Hook.** **Parsley Fern**

Talus slopes, ledges, and crevices; Goldstream and Langford areas. The American form is considered as var. *acrostichoides* (R. Br.) C. B. Clarke. (*C. acrotichoides* R. Br.)

***Cystopteris fragilis* (L.) Bernh.** **Fragile Fern**

Shady woods, moist rocky slopes and crevices; common throughout. (*Polypodium fragile* L.)

***Dryopteris arguta* (Kaulf.) Watt** **Coastal Shield-fern**

Rocky ledges and wooded places; rare; listed in Henry's *Flora* as occurring on Mount Finlayson; specimen not examined. (*Aspidium argutum* Kaulf., *Aspidium rigidum* of Henry)

***Dryopteris austriaca* (Jacq.) Woynar** **Spiny Wood-fern**

Shady, moist woods; frequent in the North Saanich, Sidney, and Goldstream areas; collected in 1943 by G. A. Hardy at Beacon Hill Park; an extremely variable species. (*D. dilatata* (Hoffm.) A. Gray, *D. spinulosa* Kuntze)

***Gymnocarpium dryopteris* (L.) Newm.** **Oak-fern**

Shaded, damp woods; apparently restricted to the Goldstream area. (*Phegopteris dryopteris* (L.) Fee, *Thelypteris dryopteris* (L.) Slosson)

***Pityrogramma triangularis* (Kaulf.) Maxon** **Golden-back Fern**

Rocky ledges and crevices; collected at Cedar Hill in 1915 and Fairfield in 1934; presently known from Mount Douglas, Thetis Lake Park, Langford, and Goldstream areas; most abundant in Langford and Goldstream; known in British Columbia only from the dry southeastern part of Vancouver Island (*Gymnogramma triangularis* Kaulf.).

***Polypodium vulgare* L. s. lat.** **Common Polypody, Licorice Fern**

Slopes, mossy rocks, tree trunks; common throughout; a very variable species, broken up into a number of taxa by some authors; var. *occidentale* Hook. is most common in our area. (*P. glycyrrhiza* D. C. Eat., *P. hesperium* Maxon)

***Polystichum munitum* (Kaulf.) Presl** **Western Sword-fern**

Shady, moist woods, wooded hillsides, open wet forests; widespread and very common in suitable habitats; the species is represented by two distinguishable taxa var. *munitum* with large and coarse leaves and var. *imbricans* (D. C. Eat.) Maxon, which is a smaller plant with closely crowded, obliquely overlapping pinnæ and occurs in the dry, exposed habitats.

***Pteridium aquilinum* (L.) Kuhn.** **Bracken**

Partial shade to open, exposed places; common throughout; represented by var. *pubescens* Underw. (*Pteris aquilina* L.).

***Woodsia scopulina* D. C. Eat.** **Rocky-mountain Woodsia**

Dry crevices; rare; restricted to Mount Finlayson and the Highland district, where it was first collected by J. R. Anderson in 1894.

***Woodwardia fimbriata* Sm.** **Giant Chain-fern**

Moist, wet places; collected by W. A. Newcombe in 1919 at Saanich Arm and not collected since; very rare in British Columbia and known only from Texada and Lasqueti Islands.

SELAGINELLACEÆ: SPIKEMOSS FAMILY

***Selaginella wallacei* Hieron.** **Wallace's Selaginella**

Exposed rocky bluffs and slopes; common throughout.

PINATÆ: CONIFERÆ

***Abies grandis* (Dougl.) Lindl.** **Grand Fir**

Lowlands; locally common.

***Chamæcyparis nootkatensis* (D. Don) Spach** **Yellow Cypress or Cedar**

Isolated trees were noted, particularly in gardens; most likely planted.

***Juniperus communis* L. var. *saxatilis* Pall.** **Common Juniper**

Collected by M. C. Melburn in 1966 at Thetis Lake Park; not known from other areas (=var. *montana* Ait.).

***Juniperus scopulorum* Sarg.** **Rocky-mountain Juniper**

Dry soils and deep rock crevices; scattered; Victoria, Esquimalt, Saanich Arm, and Deep Cove; tree 78 feet high and 3 feet in diameter reported at Deep Cove by F. King.

***Picea sitchensis* (Bong.) Carr.** **Sitka Spruce**

Rare; sizeable trees known from Lost and Blenkinsop Lakes, Highland district, and the Sidney area. It is occasionally used as an ornamental, but on the peninsula it is especially susceptible to defoliation by red spider and to malformation by spruce gall.

Pinus contorta* Dougl. var. *contorta **Shore Pine**

Swamps and rocky places; Oak Bay, Lost Lake, Royal Oak, Sidney, and Langford areas; not very common.

***Pinus monticola* Dougl.** **Western White Pine**

Rare; restricted to the Saanichton and Sidney areas; recorded from Victoria in 1937 by V. E. L. Goddard; strongly susceptible to white pine blister rust.

***Pseudotsuga menziesii* (Mirb.) Franco** **Douglas Fir**

Moist to dry areas; generally distributed throughout the forested areas; very common, and the top-ranking tree in the economy of British Columbia. Named for Archibald Menzies (1754–1842), a Scottish physician, who discovered it in 1791 at Nootka Sound on Vancouver Island.

***Taxus brevifolia* Nutt.** **Pacific Yew**

Moist woods, along streams and shady wet places; throughout in suitable habitats (*T. baccata* var. *brevifolia* Koehne).

***Thuja plicata* Donn** **Western Red Cedar**

Moist bottom lands to rarely dry, exposed ridges; common throughout. An attractive ornamental and also used as hedge material; wood aromatic, resistant to rot.

***Tsuga heterophylla* (Raf.) Sarg.** **Western Hemlock**

Wet, shady habitats; occasional; frequent in Sannichton, Deep Cove, and Goldstream area; tolerant of deep shade.

ALISMATACEÆ: WATER-PLANTAIN FAMILY

***Alisma plantago-aquatica* L. var. *americanum* Schultes and Schultes** **Water-plantain**

Marshy areas, often submersed; occasional; Bowker Creek, Swan and Blenkinsop Lakes, and the Sidney area; our material has white petals and broad cordate leaves at the base and is quite distinct from *A. plantago-aquatica* of Europe which has distinctly pink flowers. (*A. brevipes* Greene)

***Sagittaria cuneata* Sheld.** **Arrow-head or Wapato**

Lakes, ponds, and swampy areas; rare; abundant at Swan Lake. (*S. arifolia* Nutt., *S. arifolia* var. *cuneata* Lunell)

HYDROCHARITACEÆ: FROG'S BIT FAMILY

***Elodea canadensis* Rich.** **Water Weed**

Occasional in ponds and sluggish waters. (*Anacharis canadensis* Planch.)

****Elodea densa* (Planch.) Casp.** **South American Water Weed**

South American species; very similar to *E. canadensis* but much larger. Used commonly in aquaria, occasionally introduced in lakes; abundant in Langford Lake. (*Anacharis densa* Victorin)

****Vallisneria americana* Michx.** **Tape Grass**

Native of Europe; naturalized and very abundant in Elk Lake where it was collected by T. C. Brayshaw in 1968 and at Prospect Lake by A. F. Szczawinski in 1969.

JUNCAGINACEÆ: ARROW-GRASS FAMILY

***Lilacea scilloides* (Poir.) Haum.** **Flowering Quillwort**

Shallow water; rare; collected only at Beaver Lake by C. F. Newcombe in 1920, not recollected since. (*L. subulata* Humb. & Bonpl., *Phalangium scilloides* Poir.)

***Triglochin maritimum* L.** **Seaside Arrow-grass.**

Salt marshes; common along the beaches throughout.

NAJADACEÆ: NAJAD FAMILY

***Najas flexilis* (Willd.) R. & S.** **Slender Najas**

Lakes and sluggish waters; rare; known only from Elk Lake. (*Caulinia flexilis* Willd.)

POTAMOGETONACEÆ: PONDWEED FAMILY

***Potamogeton amplifolius* Tuck.** **Large-leaved Pondweed**

Shallow waters; restricted to lakes in the Highland district; recently relocated by T. C. Brayshaw at Elk Lake.

****Potamogeton gramineus* L.** **Grass-leaved Pondweed**

Native to Europe; in standing water; rare; collected at Pike Lake, Highland district, by M. C. Melburn in 1964. (*P. heterophylla* sensu Abrams)

***Potamogeton natans* L.** **Common Floating Pondweed**

Shallow standing waters and lakes throughout.

***Potamogeton prælongus* Wulf.** **White-stemmed Pondweed**

Deep water of lakes; known only from Beaver Lake where it was collected by J. Macoun in 1908 and 1913 and not recollected since.

***Potamogeton pusillus* L.** **Small Pondweed**

Lakes and ponds; Beaver, Elk, and the lakes in the Highland district; locally common.

***Potamogeton robbinsii* Oakes** **Robbins' Pondweed**

Lakes and slow streams; Beaver, Elk, and Pike Lakes.

***Potamogeton zosteriformis* Fern.** **Eel-grass Pondweed**

Lakes and slow streams; Beaver, Elk, and Langford Lakes; sporadic. (*P. compressus* of Am. auth. but not of L.)

RUPPIACEÆ: DITCH-GRASS FAMILY

***Ruppia maritima* L.** **Ditch-grass**

Brackish waters, ditches, ponds, and lakes; abundant in the Esquimalt area.

ZOSTERACEÆ: EEL-GRASS FAMILY

***Phyllospadix scouleri* Hook.** **Scouler's Surf-grass**

On rocks submerged at least at lowest tide; beach at Beacon Hill, Harling Point, and Sidney.

***Zostera marina* L.** **Eel-grass**

Intertidal pools; common in Oak Bay and Victoria.

JUNCACEÆ: RUSH FAMILY

***Juncus acuminatus* Michx.** **Sharp-fruited Rush**

Wet meadows and along streams; rare; Elk and Beaver Lakes.

***Juncus alpinus* Vill.** **Jointed Rush**

Wet places; rare; restricted to North Saanich where it was collected by M. C. Melburn in 1959; variable plant with the flowers from all sessile to all pedicellate and similar to *J. articulatus*. (*J. richardsonianus* Schult.)

***Juncus arcticus* Willd.** **Arctic Rush**
(incl. *J. balticus* Willd.)

Swamps and wet meadows; particularly abundant in Central Saanich and Sidney; *J. arcticus-J. balticus* complex is treated jointly, without recognizing its segregates; this is an extremely variable species and it is not possible to distinguish its variants, which are not at all clearly delimited. (*J. ater* Rydb.)

***Juncus articulatus* L.** **Jointed-leaved Rush**

Wet places and swamps; North Saanich, Goldstream, and Highland districts.

***Juncus bolanderi* Engelm.** **Bolander's Rush**

Swamp grounds; occasional in suitable habitats throughout.

****Juncus bufonius* L.** **Toad Rush**

Native of Europe; moist, open ground; very common throughout; represented mainly by var. *halophilus* Buch. & Fern.

***Juncus effusus* L.** **Common Rush**

Wet open ground and salt marshes; common throughout; an extremely variable plant with nine recognized varieties in North America, three of which occur in the area of study, var. *gracilis* Hook. and var. *pacificus* Fern. & Wieg. being most common.

***Juncus ensifolius* Wikst.** **Dagger-leaved Rush**

Wet, open ground; variable species most abundant at Prospect Lake and North Saanich area; *J. ensifolius* complex is treated jointly without recognizing its segregates. (*J. saximontanus* A. Nels)

***Juncus falcatus* E. Mey.** **Sickle-leaved Rush**

Wet ground; rare; known only from Pike Lake, where it was collected by T. Todd in 1968. (*J. covillei* sensu Henry, *J. menziesii* R. Br.)

***Juncus filiformis* L.** **Thread Rush**

Wet ground, lakeshores, and coastal marshes; uncommon; known from the Uplands Park, Cedar Hill Cross Road, and Victoria.

***Juncus longistylis* Torr.** **Long-styled Rush**

Wet ground; rare; known only from North Saanich, where it was collected by M. C. Melburn in 1959.

***Juncus oreganus* Wats.** **Oregon Rush**

Boggy ground; rare; known only from Rithet's Bog, Royal Oak, where it was collected by G. A. Hardy in 1950; *J. oreganus* complex is often treated jointly with *J. supiniformis* Engl., which does not occur in the area of study.

***Juncus oxymeris* Engl.** **Pointed Rush**

Wet, open ground; rare; collected only on the shores of Elk Lake by J. Macoun in 1914.

***Juncus tenuis* Willd.** **Slender Rush**

Damp ground; uncommon; known only from the shores of Elk Lake, Uplands, Esquimalt Lagoon, and Goldstream; represented by var. *congestus* Englm.; it is a weedy species, most likely not native to the peninsula. (*J. occidentalis* Wieg., *J. dudleyi* Wieg.)

***Luzula campestris* (L.) DC.** **Common Woodrush**

This is a highly variable and one of the most morphologically and taxonomically confusing species of our flora. On the peninsula there are two distinct populations—var. *congesta* (Thuill.) E. Mey., which is sporadic throughout, and var. *multiflora* (Ehrh.) Celak, which is rather rare and restricted to Thetis Lake-Goldstream and Mount Douglas-Uplands Park areas. It occurs in a variety of habitats such as open coniferous forests, lakeshore, bogs, and wet grassy places. (*L. comosa* E. Mey., *L. multiflora* Lejeune)

***Luzula parviflora* (Ehrh.) Desv.** **Small-flowered Woodrush**

Moist, open places; rare; collected by M. C. Melburn in Goldstream Park in 1957 and Thetis Lake Park in 1966.

CYPERACEÆ: SEDGE FAMILY

***Carex aperta* Boott** **Columbia Sedge**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands* from Cedar Hill; specimen not examined. (*C. turgidula* L. H. Bailey)

***Carex aquatilis* Wahl.** **Water Sedge**

Swampy ground; rare; known only from Lost Lake and Goldstream; closely related to *C. sitchensis.*

***Carex arcta* Boott** **Northern Clustered Sedge**

Swampy ground; sporadic in Prospect Lake and Thetis Lake Park.

***Carex arctæformis* Mack.**

Listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia* as occurring in the Langford area; specimen not examined. According to Hitchcock *et al.* (1969), *C. arctæformis* is of doubtful status and it may prove to be a series of hybrids between *C. arcta* and *C. canescens,* or possibly a local species of hybrid origin. (*C. cannescens* ssp. *arctæformis* (Mack.) Calder & Taylor)

***Carex athrostachya* Olney** **Slender-beaked Sedge**

Wet meadows; rare; known only from Sidney where it was collected by J. Macoun in 1913.

***Carex aurea* Nutt.** **Golden-fruited Sedge**

Wet, grassy places; sporadic; Victoria, Beacon Hill, and Thetis Lake Park. (*C. hassei* L. H. Bailey, *C. garberi* Fern.)

***Carex brevicaulis* Mack.** **Short-stemmed Sedge**

Dry, open ground; rare; known only from Elk Lake, where it was collected by J. Macoun in 1914.

***Carex cusickii* Mack.** **Cusick's Sedge**

Marshy areas; rare; Cadboro Bay and Sidney; very similar to *C. diandra* and it is difficult to separate them. (*C. diandra* var. *ramosa* sensu Henry)

***Carex deweyana* Schw.**

Open woods; rare; known only from John Dean and Thetis Lake Parks; *C. bolanderi,* which also occurs in the area, is treated as a part of the *C. deweyana* complex. (*C. bolanderi* Olney, *C. leptopoda* Mack.)

***Carex diandra* Schrank** **Lesser Panicled Sedge**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined; similar to *C. cusickii* and possibly misidentified.

***Carex exsiccata* L. H. Bailey** **Western Inflated Sedge**

Boggy places; occasional; Beaver and Prospect Lakes, Thetis Lake Park and Goldstream; closely related to *C. vesicaria.* (*C. vesicaria* var. *major* Boott)

***Carex festivella* Mack.** **Mountain Meadow Sedge**

Meadows and grassy slopes; rare; Sidney; allied to the *C. microperta* complex from which it is not clearly distinguished. (*C. microperta* Mack., *C. festiva* var. *viridis* L. H. Bailey)

***Carex flava* L.** **Yellow-fruited Sedge**

Wet meadows; occasional; Elk and Prospect Lakes, West Saanich, Island View Beach, and the Highland district.

***Carex hendersonii* L. H. Bailey** **Henderson's Sedge**

Damp woods; occasional; Smuggler's Cove and West Saanich.

***Carex hindsii* Clarke** **Hind's Sedge**

Wet places; sporadic; Saanich, Thetis Lake Park, and the Highland district; very close to and often treated as *C. lenticularis* Michx.

***Carex illota* L. H. Baily** **Small-headed Sedge**

Boggy places; rare; collected on Island View Beach and Thetis Lake Park by M. C. Melburn in 1959.

***Carex kelloggii* Boott** **Kellogg's Sedge**

Boggy places; sporadic; most common in the Goldstream area; close to and often treated as *C. lenticularis* Michx. (*C. goodenovii* sensu Henry, *C. decidua* Boott)

***Carex lacustris* Willd.**

Wet places; collected by M. C. Melburn in 1953 at Lost Lake and identified by H. J. Scoggan; *C. lacustris* in an eastern species and if identification is correct it is a first record for British Columbia. (*C. riparia* var. *lacustris* (Willd.) Kukenth.)

****Carex leporina* L.** **Hare's-foot Sedge**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* from Sidney; specimen not examined. (*C. tracyi* Mack.)

***Carex leptalea* Wahl.** **Bristle-stalked Sedge**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* from Sidney; specimen not examined.

***Carex lyngbyei* Hornem.** **Lyngbye's Sedge**

Salt marshes and brackish places; occasional in suitable habitats; represented by ssp. *cryptocarpa* (C. A. Mey.) Hult. (*C. cryptocarpa* C. A. Mey., *C. lyngbyei* var. *robusta* (L. H. Bailey) Cronq.)

***Carex macrocephala* Willd.** **Big-headed Sedge**

Sandy beaches and dunes; common throughout. (*C. anthericoides* Presl, *C. macrocephala* ssp. *anthericoides* (Presl) Hult.)

***Carex obnupta* L. H. Bailey** **Slough Sedge**

Wet ground; sporadic; Beaver and Prospect Lakes and West Saanich. (*C. magnifica* Dewey)

***Carex pachystachya* Chm.** **Thick-headed Sedge**

Moist ground along the coast; sporadic throughout. (*C. macloviana ssp. pachystachya* (Cham.) Hult., *C. festiva* var. *pachystachya* L. H. Bailey)

***Carex pauciflora* Lightf.** **Few-flowered Sedge**

Bogs; rare; Langford Lake, specimen not examined.

***Carex pensylvanica* Lam.** **Long-stoloned Sedge**

Open woods; occasional; Uplands, Ten Mile Point, Mount Douglas, and Thetis Lake Park; represented by var. *verperina* L. H. Bailey. (*C. inops* L. H. Bailey, *C. vesperina* Howell)

***Carex petasata* Dewey** **Liddon's Sedge**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* from Cedar Hill and Mount Douglas; specimens not examined.

***Carex phæocephala* Piper** **Hare Sedge**

Swamp; rare; collected at Thetis Lake Park by M. C. Melburn in 1959; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* from Sidney; specimen not examined.

***Carex praticola* Rydb.** **Meadow Sedge**

Open meadow; rare; collected at Royal Oak by G. A. Hardy in 1951 and at Sidney by J. Macoun in 1913. (*C. piperi* Mack.)

***Carex rostrata* Stokes** **Beaked Sedge**

Swamps; sporadic; West Saanich and Thetis Lake Park. (*C. rostrata* var. *utriculata* L. H. Bailey)

***Carex scirpoidea* Michx.** **Alaskan Single-spiked Sedge**

Rare; known only from the Langford area, where it was collected by C. F. Newcombe in 1916. (*C. stenochlæna* (Holm.) Mack., *C. scirpoidea* var. *stenochlæna* Holm.)

***Carex sitchensis* Prescott** **Sitka Sedge**

Swamps; sporadic throughout. (*C. aquatilis* var. *sitchensis* (Prescott) Kelso)

***Carex spectabilis* Dewey** **Showy Sedge**

Damp woods; rare; collected at Goldstream Park by M. C. Melburn in 1955 and 1956. (*C. tolmiei* Boott, *C. nigella* Boott, *C. montanensis* L. H. Bailey)

***Carex vesicaria* L.**

Margin of lake; rare; collected at North Saanich by M. C. Melburn in 1959. (*C. exsiccata* L. H. Bailey)

***Carex viridula* Michx.** **Green Sedge**

Bogs; rare; Elk Lake and Thetis Lake Park. (*C. œderi* var. *viridula* (Michx.) Keck.)

***Carex vulpinoidea* Michx.** **Fox Sedge**

Swampy ground; rare; collected at Goldstream by G. V. Copley in 1920.

***Dulichium arundinaceum* (L.) Britt.** **Dulichium**

Swamps and marshy shores; occasional; Elk Lake, East Saanich, and the Highland district.

***Eleocharis acicularis* (L.) R. & S.** **Needle Spike-rush**

Marshes and on muddy ground; rare; collected at Esquimalt Lagoon by M. C. Melburn in 1967.

***Eleocharis ovata* (Roth.) R. &. S.** **Blunt Spike-rush**

Rare; recorded from Francis Park and Pike Lake by M. C. Melburn in 1962 and 1968. (*E. obtusa* Schultes, *Scirpus obtusus* Willd.)

***Eleocharis palustris* (L.) R. & S.** **Creeping Spike-rush**

Wet ground, shallow water; throughout in suitable habitat. (*E. macrostachya* Britt., *Scirpus palustris* L.)

***Eriophorum chamissonis* C. A. Mey.** **Russet Cotton-grass**

In bogs; abundant in Rithet's Bog. (*E. medium* Anders.)

***Hemicarpha micrantha* (Vahl) Britt. var. *aristulata* Cov.**

Listed in the Provincial Museum Report for 1921 as occurring in Cadboro Bay, collected by Malte; specimen not examined. (*H. aristulata* Smyth).

***Rhynchospora alba* (L.) Vahl** **White Beaked-rush**

Wet places; rare; reported only from Pike Lake by M. C. Melburn in 1965.

***Scirpus cernuus* Vahl** **Low Club-rush**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands* and in Henry's *Flora;* from Victoria; specimens not examined. (*S. riparius* sensu Henry, *S. pigmæus* Gray)

***Scirpus cyperinus* (L.) Kunth.**

Swamps; rare; known only from North Saanich where it was collected by M. C. Melburn in 1963; represented by var. *brachypodus* (Fern.) Gilly and sometimes separated as a distinct species under the name *S. atrocinctus* Fern.

***Scirpus lacustris* L. s. lat.** **Viscid Bulrush**

Ponds and marshes; locally abundant; Prospect Lake, Pike Lake, Thetis Lake Park, and Island View Beach. A number of species have been recognized in the *S. lacustris* complex, but the infraspecific taxonomy is not yet fully clarified.

***Scirpus microcarpus* Presl** **Small-fruited Bulrush**

Swampy ground; occasional; West Saanich and Esquimalt Lagoon. (*S. macounii* Holm)

***Scirpus robustus* Pursh** **Saltmarsh Bulrush**

Salt marshes; Sidney, Island View Beach, and Little Lagoon; our plants belong to var. *paludosus* (A. Nels.) Kuekenth. (*S. paludosus* A. Nelson, *S. campestris* Britt.)

***Scirpus subserminalis* Torr.** **Water Club-rush**

Edges of lakes and ponds; rare; collected at Pike Lake by T. Todd in 1965 and 1967.

GRAMINEÆ: GRASS FAMILY

***Agropyron caninum* (L.) Beauv. s. lat.** **Bearded Wheatgrass**

Moist places and open woods; occasional; known from Beacon Hill and Oak Bay; a variable species with a number of infraspecific taxa described; our plants of this complex are discussed jointly without separating them into distinct species or subspecies. (*Triticum subsecundum* Link, *T. trachycaulum* Link, *A. tenerum* Vasey, *A. trachycaulum* Malte)

****Agropyron repens* (L.) Beauv.** **Quackgrass**

Native of Europe; fields and waste places; common throughout; a noxious and persistent weed; represented by two forms--the awnless f. *repens,* and the awned f. *aristatum* (Schum.) Holmb. (*Triticum repens* L.)

***Agropyron smithii* Rydb.** **Western Wheatgrass**

Waste places and meadows; rare; known only from Saanichton Spit and Esquimalt Lagoon. (*Elymus smithii* Gould)

****Agrostis alba* L.** **Redtop**

Native of Eurasia; commonly cultivated for meadow, pasture, and lawns; an escapee from cultivation in many areas; represented by var. *palustris* (Huds.) Pers., var. *stolonifera* (L.) J. E. Smith and var. *alba;* varieties of *A. alba* are one of best lawn grasses and sometimes are regarded as separate species.

***Agrostis æquivalvis* (Trin.) Trin.**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined; common grass of lowland bogs, particularly on the Queen Charlottes. (*A. canina* var. *æquivalvis* Trin.)

****Agrostis canina* L.** **Velvet Bentgrass**

Native of Europe; cultivated especially for putting greens; occasional in Victoria and Oak Bay.

***Agrostis exarata* Trin. s. lat.** **Spike Bentgrass**

Moist, open ground; sporadic throughout; frequent in the Sidney area; a polymorphic species consisting of a number of integradient races not recognizable at the specific level. (*A. exarata* var. *monolipsis* (Torr.) A. S. Hitchc., *A. exarata* var. *pacifica* Vasey)

***Agrostis idahoensis* Nash**

Listed in the Provincial Museum Report for 1921 as occurring in Victoria, where it was collected by Macoun; not very readily distinguishable from *A. scabra.*

***Agrostis inflata* Scribn.**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria and Esquimalt; specimens not examined; status of *A. inflata* is not very clear and it is considered by many as a densely tufted form of *A. microphylla.*

***Agrostis microphylla* Steud.**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined; *A. microphylla, A. inflata,* and *A. exarata* are not readily distinguishable and require further study.

***Agrostis scabra* Willd.** **Rough Bentgrass**

Moist, open grassland; sporadic throughout. (*A. geminata* Trin.)

***Agrostis semiverticillata* (Forsk.) C. Christ.** **Water Bentgrass**

Native of Europe; listed in Henry's *Flora* as occurring in Victoria; specimen not examined. (*A. verticillata* Vill., *Phalaris semiverticillata* Forsk.)

***Agrostis tenuis* Sibth.** **Colonial Bentgrass**

Native of Europe; cultivated for lawns and pastures; escaped and established in the Uplands, Mount Douglas, and Thetis Lake Parks. (*A. vulgaris* With., *A. stricta* Willd.)

***Agrostis thurberiana* Hitchc.** **Thurber Bentgrass**

Rare; known only from the Uplands, where it was collected by M. C. Melburn in 1956. (*Pedagrostis thurberiana* Hult.)

***Aira caryophyllea* L.** **Silvery Hair-grass**

Native of Europe; open ground and coastal plains; common throughout; frequent weed in rock gardens.

***Aira præcox* L.** **Little Hair-grass**

Native of Europe; sandy open ground and dry fields; common throughout and well established for many years.

***Alopecurus æqualis* Sobol.** **Short-awn Foxtail**

In shallow waters and wet places; locally abundant; Royal Oak, Elk Lake, and Sidney. (*A. aristulatus* Michx., *A. geniculatus* var. *robustus* Vasey)

***Alopecurus carolinianus* Walt.** **Tufted Foxtail**

Waste areas; rare; known from the Uplands where it was collected by M. C. Melburn in 1961, 1965, and 1967; to our knowledge this species was collected for the first time in Oak Bay by Macoun in 1887. *A. carolinianus* is becoming quite weedy in the California vineyards. (*A. macounii* Vasey)

***Alopecurus geniculatus* L.** **Water Foxtail**

Native of Eurasia; shallow water and wet places; occasional in Saanich and at Island View Beach. (*A. pallescens* Piper & Beattie.)

***Alopecurus myosuroides* Huds.** **Field-meadow Foxtail**

Native of Europe; rare; known only from the Saanichton Experimental Farm. (*A. agrestis* L.)

***Alopecurus pratensis* L.** **Meadow Foxtail**

Native of Eurasia; introduced as a cultivated grass; now established in Oak Bay and Royal Oak.

***Alopecurus saccatus* Vasey** **Pacific Meadow Foxtail**

Wet meadows; restricted to the Sidney area. (*A. howellii* Vasey)

***Ammophila arenaria* (L.) Link** **Marram Grass**

Native of Europe; listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia* as occurring in Victoria and Mount Newton; specimens not examined; a very well-known sand binder and most likely introduced for this purpose.

***Anthoxanthum odoratum* L.** **Sweet Vernalgrass**

Native of Eurasia; meadows and open places; common throughout.

***Arrhenatherum elatius* (L.) Presl** **Tall Oatgrass**

Native of Europe; escapee from cultivation; Victoria, John Dean Park, and Thetis Lake Park. (*Avena elatior* L.)

***Avena fatua* L.** **Wild Oats**

Native of Europe; fields and waste places; in some areas a common weed in grain fields.

***Avena sativa* L.** **Cultivated Oats**

A cultivated oat which is found occasionally as an escapee from cultivation.

***Beckmannia syzigachne* (Steud.) Fern.** **American Sloughgrass**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined. (*Panicum syzigachne* Steud.)

***Bromus aleutensis* Trin. ex Griseb.**

Listed by J. W. Eastham in *Supplement to Flora of British Columbia;* Victoria; specimen not examined; similar to *B. sitchensis.* (*B. sitchensis* var. *aleutensis* (Trin.) Hult.)

***Bromus carinatus* Hook. & Arn. s. lat.** **Californica Brome**

Open ground and waste places; most common in the vicinity of Mount Douglas and along the Patricia Bay Highway; an extremely variable species consisting of many races. (*B. hookerianus* Thurb., *B. marginatus* Ness)

***Bromus commutatus* Schrad.** **Hairy Chess**

Native of Europe; a weed in waste places; reported for the first time from Sidney where it was collected by Macoun in 1912.

***Bromus erectus* Huds.** **English Brome**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined. (*B. macounii* Vasey)

***Bromus inermis* Leys.** **Hungarian Brome**

Native of Eurasia; listed in Henry's *Flora;* Victoria; cultivated as a pasture grass; specimen not examined. (*B. pumpellianus* Schibn., *Festuca inermis* DC. & Lam.)

***Bromus latiglumis* (Shear.) Hitchc.**

An Eastern species collected by M. C. Melburn in 1955 at Cadboro Bay.

***Bromus mollis* L.** **Lop-grass**

Native of Europe; a weed in waste, open places. (*B. racemosus* L., *B. hordaceus* of Am. auth. but not of L.)

***Bromus pacificus* Shear** **Pacific Brome-grass**

Moist forest; rare; known from the Goldstream area; not readily distinguishable from *B. vulgaris* and *B. sitchensis.* (*B. gussoni* Parl.)

***Bromus rigidus* Roth** **Ripgut**

Native of Europe; common weed in open and waste places; Uplands, Esquimalt, John Dean, and Thetis Lake Parks. (*B. maximus* Desf.)

***Bromus secalinus* L.** **Chess**

Native of Eurasia; an occasional weed in grain fields. (*B. mollis* var. *secalinus* Huds.)

***Bromus sitchensis* Trin.** **Sitka Brome**

Wooded areas and grassy banks; occasional; Uplands, West Saanich, Mount Tolmie, and Sidney. (*B. aleutensis* Trin., *B. sitchensis* var. *aleutensis* (Trin.) Hult.)

***Bromus sterilis* L.** **Barren Barngrass**

Native of Europe; fields and waste places; sporadic; Victoria and Saanich.

***Bromus tectorum* L.** **Downey Chess**

Along roadsides, banks, and waste places; occasional; Uplands, Saanich, and Saanichton; resembles *B. ciliatus* and is separable from it by much longer ligules.

***Bromus vulgaris* (Hook.) Shear** **Common Brome**

Rocky places and shady ravines; occasional throughout; resembles *B. ciliatus* and is separable from it by much longer ligules.

***Calamagrostis canadensis* (Michx.) Beauv. s. lat.** **Bluejoint**

Open, wet places; occasional in Royal Oak and Saanichton; one of the most variable species which includes many infraspecific segregates; until the entire complex is solved we prefer to treat our material in the broad sense.

***Calamagrostis nutkænsis* (Presl) Steud.** **Pacific Reedgrass**

Rare; known only from Victoria, where it was collected by J. G. French in 1920. (*C. aleutica* Trin.)

***Cinna latifolia* (Trev.) Griseb** **Woodreed Grass**

Wet areas; rare; sporadic in Sidney and Goldstream. (*Agrostis latifolia* Trev.)

****Cynodon dactylon* (L.) Pers.** **Bermuda Grass**

Native of Europe; rare; known only from the Outer Wharf, where it was collected by J. Fletcher in 1898 and Braefoot, Saanich, by G. A. Hardy in 1943. (*Panicum dactylon* L.)

****Cynosurus cristatus* L.** **Crested Dogtail Grass**

Native of Eurasia; fields and waste places; common throughout.

****Cynosurus echinatus* L.** **Bristly Dogtail Grass**

Native of Europe; common in open ground; Uplands, Saanich, Mount Douglas, and Thetis Lake Parks.

****Dactylis glomerata* L.** **Orchard Grass**

Native of Eurasia; very common on a variety of habitats throughout; a very tolerant species and often weedy.

***Danthonia californica* Boland.** **California Oatgrass**

Meadows and open woods; the typical phase and var. *americana* (Scribn.) A. S. Hitchc. are sporadic in the Uplands and Mount Douglas Park. (*D. americana* Scribn., *D. macounii* A. S. Hitchc.)

***Danthonia intermedia* Vasey**

Listed in Henry's *Flora* as occurring at Goldstream; specimen not examined.

***Danthonia spicata* (L.) Beauv.** **Poverty Oatgrass**

Sterile and rocky places; rare; known from the Uplands where it was collected by M. C. Melburn in 1957. (*Avena spicata* L.)

***Deschampsia cæspitosa* (L.) Beauv.** **Tufted Hairgrass**

Bogs and wet places; rare; collected at Oak Bay by J. Macoun in 1913 and Saanichton by W. R. Foster in 1939; represented by ssp. *beringensis* (Hult.) Lawr. (*D. beringensis* Hult., *D. cæspitosa* var. *arctica* Vasey)

***Deschampsia danthonioides* (Trin.) Munro** **Annual Hairgrass**

Open ground; sporadic in Victoria, Royal Oak, and Sidney. (*D. calycina* Presl)

***Deschampsia elongata* (Hook.) Munro** **Slender Hairgrass**

Open ground; occasional; Royal Oak, Saanichton, and the East Saanich Indian Reserve. (*Aira elongata* Hook.)

****Digitaria ischæmum* (Schreb.) Schreb.** **Smooth Crab-grass**

Native of Eurasia; cultivated fields, rare; collected in Saanichton by F. A. Szczawinski in 1965. (*Panicum ischæmum* Schreb.)

****Digitaria sanguinalis* (L.) Scop.** **Crab-grass**

Native of Europe; weed of cultivated fields and lawns; sporadic; Victoria and Saanichton. (*Panicum sanguinale* L.)

***Distichlis spicata* (L.) Greene Seashore Saltgrass**

Locally common; Saanichton Spit, Island View Beach, and Sidney; represented mainly by var. *borealis* (Presl) Beetle.

***Distichlis stricta* (Torr.) Rydb. Desert Saltgrass**

This species is common on alkaline soils in the Interior; rare in this area and known only from Saanichton Spit, where it was collected by M. C. Melburn in 1956. (*D. spicata* var. *stricta* Beetle)

****Echinochloa crusgalli* (L.) Beauv. Barnyard Grass**

Native of Europe; ditches and cultivated fields; sporadic throughout (*Panicum crusgalli* L.)

***Elymus glaucus* Buckl. Blue Wild-rye**

Open woods and dry hillsides; locally abundant; East Saanich Indian Reserve, John Dean Park, Thetis Lake Park, Esquimalt Lagoon, and occasional throughout the area of study in suitable habitat; variable; represented by var. *jepsoni* Davy, known only from Sidney; var. *breviaristratus* Davy (*E. howellii* Scribn. & Merrill, *E. glaucus* var. *virescens* Bowden), known from Beacon Hill and along the grassy margins of coastal areas in Victoria; and var. *glaucus* which is not as common as the awnless var. *breviaristatus* in the area. The species intergrade with *E. canadensis* and *E. hirsutus*. (*E. virescens* Piper, *E. glaucus* ssp. *virescens* (Piper) Gould)

***Elymus hirsutus* Presl Northern Rye-grass**

Open, coastal habitats; similar in habit to *E. glaucus;* rare; known from Deep Cove, where it was collected by J. Macoun in 1914. This species occasionally hybridizes with *Hordeum brachyantherum,* and such a hybrid was described as X *Elymordeum schaakianum.*

***Elymus mollis* Trin. American Dunegrass**

Sandy dunes and beaches; common in some areas of Oak Bay and Cadboro Bay; frequently hybridizes with *E. glaucus* Buckl., *E. hirsutus* Presl, and most likely with one or two other species; several infraspecific taxa are recognized, one of them well known in the area was called *E. vancouverensis* by Vasey. It has been rightly pointed out that *E. vancouverensis* is a hybrid in origin, with *E. mollis* being one parent, and the suitable epithet for it should be *E. X vancouverensis* (Vasey) Bowden. (*E. vancouverensis* Vesey, *E. arvenarius* ssp. *mollis* (Trin.) Hult., *E. mollis* var. *villossus* E. Mey.)

****Festuca dertonensis* (All.) Aschers. & Graebn. Annual Fescue**

Native of Europe; dry hills and meadows; an annual, locally abundant in Oak Bay, Uplands, Cadboro Bay, and Sidney. According to some authorities, Linnaeus' *F. bromoides* L. is the legitimate name. (*F. sciuroides* Roth)

****Festuca elatior* L. Meadow Fescue**

Native of Eurasia; escapee from cultivation in the Saanichton area; making sporadic occurrence in disturbed soil.

***Festuca megalura* Nutt. Foxtail Fescue**

Dry, rocky bluffs; native annual sporadic in Victoria, Oak Bay, Royal Oak, and Saanichton.

***Festuca microstachys* Nutt. Nuttall's Fescue**

Open parkland; sporadic; Oak Bay, Uplands, Sidney, and Goldstream; an extremely variable complex with many taxa described. (*F. pacifica* Piper, *F. reflexa* Buckl., *F. tracyi* A. S. Hitchc.)

****Festuca myuros* L. Rat-tail Fescue**

Native of Europe; dry, open places; established in Uplands Park where it was collected by T. C. Brayshaw in 1970. Very similar to *F. megalura* and it is probable that the two taxa represent a different form of one species.

***Festuca occidentalis* Hook. Western Fescue**

Dry, rocky places; seldom abundant; Sidney and Thetis Lake Park.

***Festuca octoflora* Walt.** **Six-week Fescue**

Open, dry places; sporadic; an annual, known only from Cadboro Bay, where it was collected by J. W. Eastham in 1938. (*F. tenella* Willd.)

***Festuca ovina* L. s. lat.** **Sheep Fescue**

Dry, open places; sporadic; Thetis Lake Park and Mount Finlayson; an extremely variable species, commonly used as a component of lawns. (*F. saximontana* Rydb.)

***Festuca rubra* L. s. lat.** **Red Fescue**

Common in open grassland throughout; occasionally used in grass mixture for pastures; includes a number of infraspecific taxa regarded by the authors in the broad sense as *F. rubra;* recognized var. *littoralis* Vasey is most common in the area of study.

***Festuca subulata* Trin.** **Bearded Fescue**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Sidney; specimen not examined.

***Festuca subuliflora* Scribn.** **Coast Range Fescue**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Sidney; specimen not examined.

***Glyceria borealis* (Nash) Batch.** **Northern Mannagrass**

Wet places and shallow water; rare; shores of Beaver and Thetis Lakes. (*Panicularia borealis* Nash)

***Glyceria elata* (Nash) M. E. Jones** **Tall Mannagrass**

Rare; known from Goldstream, where it was collected by M. C. Melburn in 1961. (*Panicularia elata* Nash, *G. latifolia* Cotton)

***Glyceria grandis* S. Wats.** **American Mannagrass**

Marshes and wet places; sporadic around Swan Lake; collected by G. A. Hardy in 1945 and 1946. (*Panicularia americana* MacM., *G. maxima* ssp. *grandis* Hult.)

***Glyceria occidentalis* (Piper) J. C. Nels.** **Indian Mannagrass**

Margins of shallow lakes; sporadic in Saanich. (*Panicularia occidentalis* Piper)

***Glyceria septentrionalis* Hitchc.** **Eastern Mannagrass**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined; an Eastern species possibly misindentified.

***Glyceria striata* (Lam.) A. S. Hitchc.** **Fowl Mannagrass**

Rare; West Saanich and Goldstream; represented by var. *stricta* (Scribn.) Fern. (*Poa striata* Lam., *Panicularia nervata* var. *stricta* Scribn.)

***Holcus lanatus* L.** **Velvet Grass**

Native of Europe; open ground and meadows; common throughout.

***Hordeum brachyantherum* Nevski** **Meadow Barley**

Wet meadows and salt marshes; occasional; Victoria, Oak Bay, Uplands, Saanich, Esquimalt, and Goldstream. (*H. jubatum* ssp. *breviaristatum* Bowen, *H. boreale* Scribn. & Smith)

***Hordeum hystrix* Roth.** **Mediterranean Barley**

Native of Europe; waste land; sporadic; Victoria, Oak Bay, and the Uplands; weedy species occurring mostly on waste, dry sites. (*H. geniculatum* All., *H. gussonianum* Parl.)

***Hordeum jubatum* L.** **Foxtail Barley**

Disturbed areas; common throughout in suitable habitat; var. *cæspitosum* (Scribn.) Hitchc. known as Bobtail Barley occurs occasionally in Victoria and the Uplands. (*H. cæspitosum* Scrbn.)

****Hordeum leporinum* Link.**

Native of Europe; fields and waste places around Victoria; weedy species spreading quite rapidly in some areas.

****Hordeum murinum* L. Wall Barley**

Native of Europe; weed of waste ground; occasionally in Victoria and John Dean Park; closely resembling *H. leporinum.*

***Hordeum pusillum* Nutt. Little Barley**

Plains and open ground; rare; Uplands, John Dean Park, and Island View Beach.

***Kœleria cristata* (L.) Pers. Junegrass**

Sandy soil; Beacon Hill, Sidney, and Mount Finlayson; valuable range grass very sporadic with us; variable with a number of specific and infraspecific taxa, var. *longifolia* Vasey, is most frequent in the area. (*Poa cristata* L., *Aira cristata* L.)

****Lolium multiflorum* Lam. Italian Ryegrass**

Native of Europe; well established on meadows and waste places; common throughout. (*L. italicum* A. Br.)

****Lolium perenne* L. Perennial Ryegrass**

Native of Europe; well established on open meadows and waste places; cultivated as a forage plant; common throughout.

****Lolium temulentum* L. Darnel**

Native of Europe; waste places; weedy species, sporadic in Victoria.

***Melica harfordii* Boland Harford Melic**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Sidney; specimen not examined.

***Melica subulata* (Griseb.) Scribn. Alaska Oniongrass**

Shady to open coniferous forest; occassional; Uplands and Highland district. (*Bromus subulatus* Griseb.)

****Mibora minima* (L.) Desv.**

Native of Europe; known only from Saanichton, where it was collected by J. Macoun in 1914; to our knowledge this is the only record of this species for British Columbia. (*M. verna* Adams)

***Panicum capillare* L. Witch Grass**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

****Phalaris arundinacea* L. Reed Canary Grass**

Native of Eurasia; wet places; Swan and Blenkinsop Lakes, Thetis Lake Park, and throughout the Saanich area.

****Phalaris canariensis* L. Canary Grass**

Native of Europe; rare; collected at Oak Bay by M. C. Melburn in 1958. (*P. avicularis* Salisb.)

****Phleum pratense* L. Timothy**

Native of Europe; open grassy fields; common throughout.

***Phragmites communis* (L.) Trin. Common Reed**

Cosmopolitan; rare; known only from Elk Lake where it was collected by J. Macoun in 1914.

****Poa annua* L. Annual Bluegrass**

Native of Europe; widely introduced and well established, an annual weed of lawns and roadsides; very common throughout.

******Poa bulbosa*** **L. Bulbous Bluegrass**

Native of Europe; open grassy places; abundant in Victoria, Uplands, and Thetis Lake Park.

Poa canbyi **(Scribn.) Piper Canby Bluegrass**

Listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia;* Victoria; specimen not examined; not easily distinguishable from *P. scabrella.* (*Glyceria canbyi* Scribn.)

******Poa compressa*** **L. Canada Bluegrass**

Native of Europe; open ground, meadows, and waste places; cultivated for pasture and an escapee in the Saanich area.

Poa confinis **Vasey Seaside Grass**

Sand dunes and sandy soil meadows; sporadic at Saanichton Spit.

Poa macrantha **Vasey Seashore Bluegrass**

Sand dunes along the coast; Victoria and Saanichton Spit. (*Poa douglasii* ssp. *macrantha* Keck)

******Poa nemoralis*** **L. Wood Bluegrass**

Native of Europe; rare; known only from a wooded area in the Gorge, where it was collected by J. W. Eastham in 1939.

Poa palustris **L. Fowl Bluegrass**

Open ground; occasional in the Oak Bay, Cadboro Bay, and Swan Lake areas. (*Poa crocata* Michx.)

******Poa pratensis*** **L. Kentucky Bluegrass**

Native of Europe; well established in open woods and meadows throughout.

Poa rupicola **Nash Timberline Bluegrass**

Rocky open places; sporadic; Oak Bay, Saanich, and Sidney.

Poa sandbergii **Vasey Sandberg Bluegrass**

Dry ground; rare; collected at Mount Tolmie by J. W. Eastham in 1942.

Poa scabrella **(Thurb.) Benth.**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined.

******Polypogon interruptus*** **H. B. K. Ditch Polypogon**

Native of Europe; rare; known only from the salt marshes at Sidney, where it was collected by J. Macoun in 1914. (*Alopecurus interruptus* Poir)

******Polypogon monspeliensis*** **(L.) Desf. Rabbitfoot Grass**

Native of Europe; sloughs; frequent; Victoria, Cadboro Bay, Island View Beach, Sidney, and Esquimalt Lagoon. (*Alopecurus monspeliensis* L. *P. crinitus* Nutt.)

******Puccinellia distans*** **(L.) Parl.**

Native of Eurasia; rare; collected only from Oak Bay by C. F. Newcombe in 1917; not collected since. (*Poa distans* L.)

Puccinellia lemmonii **(Vasey) Scribn.**

Rare; collected at the East Saanich Indian Reserve by M. C. Melburn in 1956. (*Poa lemmonii* Vasey)

******Puccinellia maritima*** **(Huds.) Parl.**

Native of Europe; listed in Henry's *Flora* as occurring in salt marshes in Victoria; specimen not examined.

Puccinellia nutkænsis **(Presl) Fern. & Weath.**

Wet saline soils; occasional; Oak Bay, Saanichton Spit, and Sidney. (*Poa nutkænsis* Presl)

Puccinellia nuttalliana **(Schult.) A. S. Hitchc.** **Nuttall Alkali-grass**

Shores and wet alkaline soil; rare; known from the Uplands and Esquimalt Lagoon, where it was collected by M. C. Melburn in 1961 and 1964. (*Poa airoides* Nutt., *Poa nuttalliana* Schult.)

Puccinellia pauciflora **(Presl) Munz**

Wet open areas; rare; John Dean Park and Sidney. (*Glyceria pauciflora* Presl)

Puccinellia pumila **(Vasey) A. S. Hitchc.**

Shores; rare; known from the Beacon Hill area, where it was collected by J. W. Eastham in 1939. (*Glyceria pumila* Vasey).

******Setaria viridis*** **(L.) Beauv.** **Green Bristlegrass**

Native of Europe; a weed in cultivated places; occasional in the Saanich area.

Stipa columbiana **Macoun**

Listed in Henry's *Flora* as occurring at Cedar Hill, Victoria; specimen not examined. (*S. occidentalis* Thurb.)

Stipa comata **Trin. & Rupr.** **Needle-and-Thread**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined; this record is doubtful as it is out of its range.

Stipa viridula **Trin.** **Green Needlegrass**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

Trisetum canescens **Buckl.** **Tall Trisetum**

Moist areas; occasionally in Victoria and the Sidney area. (*T. cernuum* var. *canescens* Beal, *T. elatum* Nutt.)

Trisetum cernuum **Trin.** **Nodding Trisetum**

Rare; known from the Sidney area, where it was collected by J. Macoun in 1913.

******Trisetum flavescens*** **(L.) Beauv.**

Native of Europe; planted as a forage grass; occasionally escaping. (*Avena flavescens* L.)

SPARGANIACEÆ: BUR-REED FAMILY

Sparganium eurycarpum Engelm. **Broad-fruited Bur-reed**

Swamps and edges of lakes and streams; decreasing; Swan, Beaver, and Elk Lakes. (*S. ramosum* Pursh)

Sparganium minimum **Fries** **Small Bur-reed**

Swamps and shallow waters; rare; known only from the ponds and lakes in the Highland district.

Sparganium simplex **Huds.** **Simple-stemmed Bur-reed**

Swamps and edges of lakes; sporadic in Lost, Elk, and Prospect Lakes.

TYPHACEÆ: CAT-TAIL FAMILY

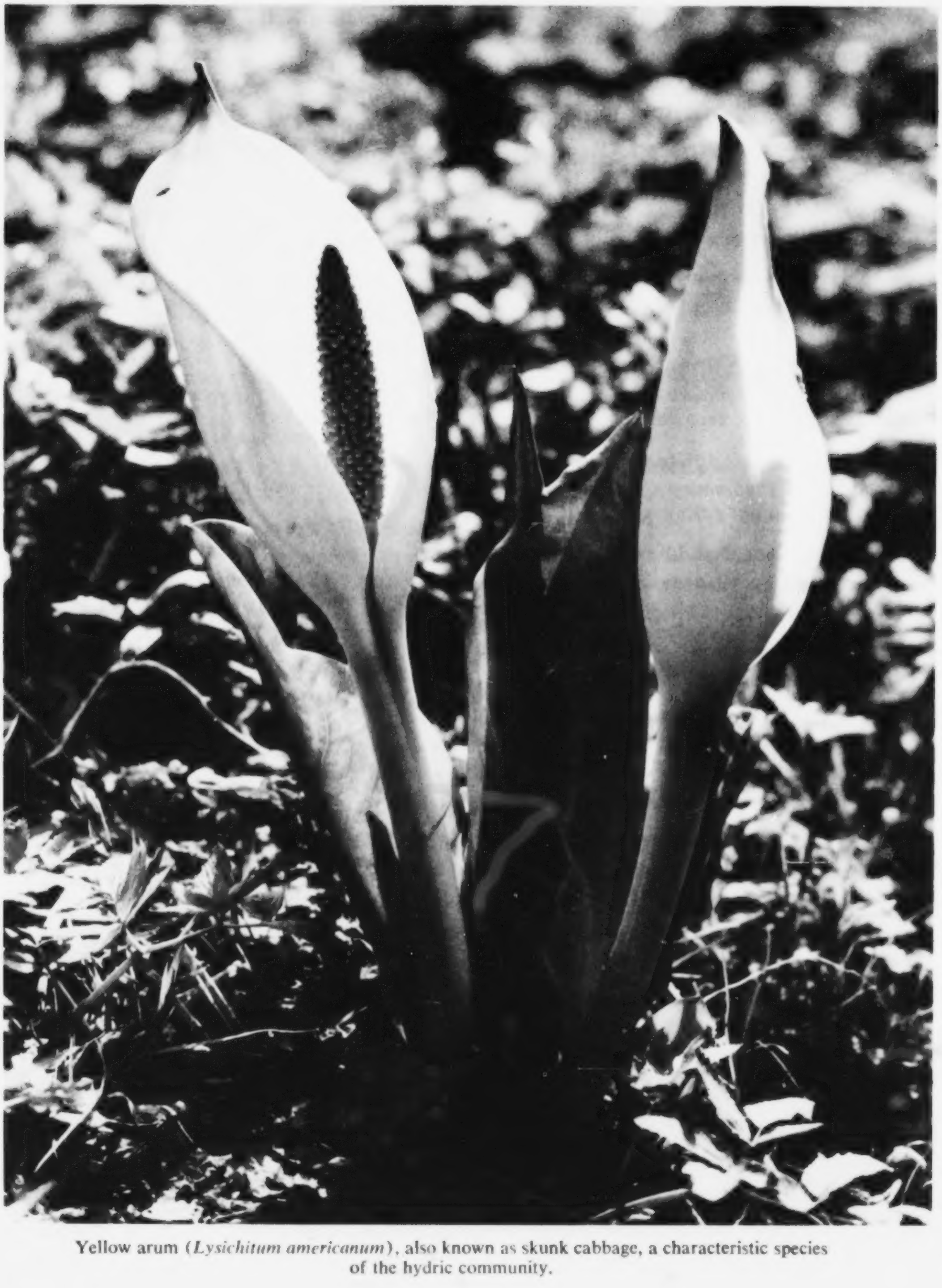
Typha latifolia **L.** **Broad-leaved Cat-tail**

Fresh-water marshes and edges of lakes; sporadic throughout.

ARACEÆ: ARUM FAMILY

Lysichitum americanum **Hult. & St. John** **Yellow Arum**

Boggy, wet places, lakeshores; throughout in suitable habitats. This plant is commonly known under the name of "skunk-cabbage."



Yellow arum (*Lysichitum americanum*), also known as skunk cabbage, a characteristic species of the hydric community.

LEMNACEÆ: DUCKWEED FAMILY

***Lemna minor* L.** **Lesser Duckweed**

Lakes and ponds throughout.

***Lemna triscula* L.** **Ivy-leaved Duckweed**

Ponds and lakes; known only from Elk Lake; most likely poorly collected.

***Spirodela polyrhiza (L.)* Schleid.** **Greater Duckweed**

Standing fresh water; Swan, Beaver, and Elk Lakes. (*Lemna polyrhiza* L.)

LILIACEÆ: LILY FAMILY

***Allium acuminatum* Hook**

On sandy or rocky soil in exposed places; very common throughout.

***Allium amplectens* Torr.**

Open, dry ground; frequent in Ten Mile Point and occasional throughout the area of study. (*A. attenuifolium* Kell.)

***Allium cernuum* Roth** **Nodding Onion**

Dry, open, grassy places; common throughout in suitable habitats.

***Allium geyeri* Wats.** **Geyer's Onion**

Damp, open ground; occasional at Ten Mile Point, Cattle Point, Uplands, and Sidney; represented by var. *tenerum* M. E. Jones. (*A. fibrosum* Rydb.)

***Brodiæa coronaria* (Salisb.) Engl.** **Large-flowered Brodiæa**

Dry, open, grassy slopes and rocky outcrops; common throughout in suitable habitats. (*B. grandiflora* Smith, *Hookera coronaria* Salisb.)

***Camassia leichtlinii* (Baker) Wats.** **Great Camas**

Open to semishaded and grassy places; roadsides; common throughout; decreasing due to disappearance of suitable habitats.

***Camassia quamash* (Pursh) Greene** **Common Camas**

Parklands and grassy open places; common throughout.

***Disporum hookeri* (Torr.) Britt.** **Hooker's Fairy Bell**

Shaded woods; on soil rich in humus; occasional in Uplands, Sidney, and Thetis Lake Park; represented by var. *oreganum* (Wat.) Q. Jones. (*D. oreganum* (Wats.) B. & H.)

***Disporum trachycarpum* (Wats.) B. & H.** **Rough-fruited Fairy Bells**

Wooded areas; rare; Gordon Head.

***Erythronium oreganum* Applegate** **White Fawn Lily or Easter Lily**

Grassy ledges and openings, damp open woods; common throughout the area; decreasing due to disturbance of natural habitats.

***Erythronium revolutum* Sm.** **Pink Fawn Lily**

Open woods; rare; known from Cadboro Bay and John Dean Park where it was collected by M. C. Melburn in 1955 and 1965.

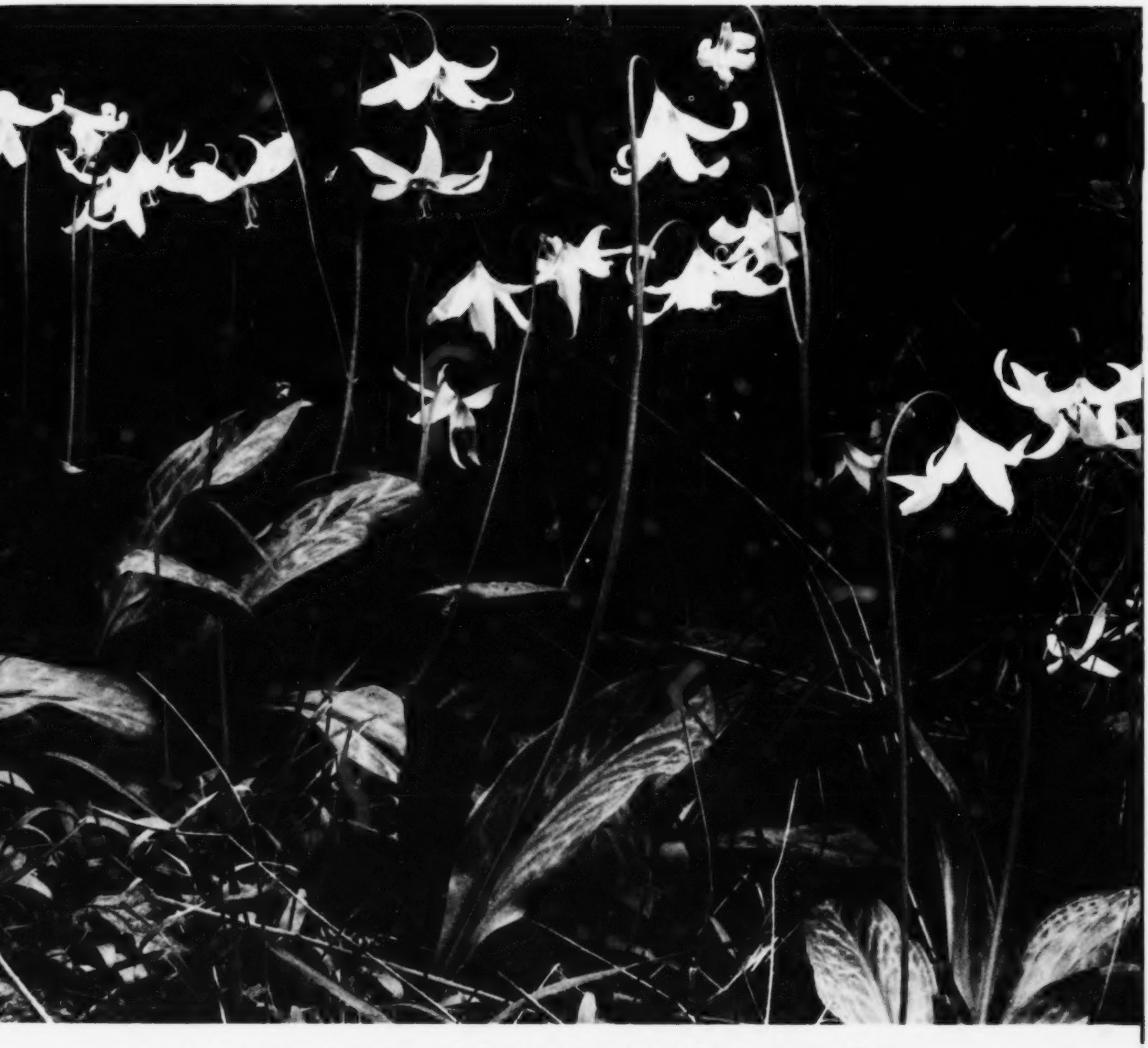
***Fritillaria camschatensis* (L.) Ker-Gawl.** **Rice Root**

Damp, open places; rare; Oak Bay, Cadboro Bay, and Saanich. (*F. kamtschatcensis* var. *angustifolia* sensu Henry)

***Fritillaria lanceolata* Pursh** **Chocolate Lily**

Damp, open, grassy places and parkland; common throughout.

Large, flowered brodiæa (*Brodiæa coronaria*) inhabits dry, open, grassy, and rocky sites. A showy component of the spring flora.



Easter lily (*Erythronium oreganum*), a characteristic species of forest opening and grassy places.

***Lilium columbianum* Hanson** **Tiger Lily**

Damp, open woods and meadows; occasional; Victoria, Lost Lake, Thetis Lake Park, and Langford Lake. (*L. parvifolium* (Hook.) Holz.)

***Maianthemum dilatatum* (Wood) Nels. & Macbr.** **Wild Lily-of-the-Valley**

Woods and recent clearings; common throughout. (*M. bifolium* var. *dilatatum* Wood.)

***Smilacina racemosa* (L.) Desf.** **False Spikenard**

Damp woods; thickets and clearings; occasional throughout. (*S. amplexicaulis* Nutt., *Vagnera brachypetala* Rydb.)

***Smilacina stellata* (L.) Desf.** **Star-flowered Solomon's Seal**

Wet, open places; occasional throughout. (*S. sessilifolia* Nutt.)

***Streptopus amplexifolius* (L.) D. C.** **Twisted Stalk**

Moist, shady to partly open woods, on rich humus soil; fairly common throughout.

***Trillium ovatum* Pursh** **Trillium**

Damp woods, on soil rich in humus; common throughout in suitable habitat. This species is protected by Act of British Columbia legislation since 1958. The reason for protection was because of its fast disappearance due to the disturbance of habitats.

***Triteleia grandiflora* Lindl.** **Large-flowered Triteleia**

Open, grassy places; a number of collections in the past indicate that this plant was particularly abundant in Beacon Hill, Oak Bay, and the Uplands; today the species is rare or even extinct in most areas. (*Brodiæa douglasii* Wats.)

***Triteleia hyacinthina* (Lindl.) Greene** **White Tritelia**

Damp, open, grassy places; very common in the past, particularly in Beacon Hill, Oak Bay, and Saanich; decreasing due to the disturbance of habitats. (*Brodiæa lactea* Wats.)

***Veratrum viride* Ait.** **Green False Hellebore**

This subalpine species is restricted to the Goldstream area only; represented by var. *eschscholtzii* (A. Gray) Breitung. (*V. eschscholtzii* (R. & S.) Gray)

***Zygadenus venosus* Wats.** **Death Camas**

Open, grassy places and rocky ledges throughout the area; decreasing due to the disturbance of its habitat; poisonous to stock.

IRIDACEÆ: IRIS FAMILY

****Iris pseudacorus* L.** **Yellow Flag**

Native of Europe; edge of ditches; escapee from cultivation and known from Prospect Lake, Goldstream, and the Highland district.

***Sisyrinchium angustifolium* Mill.** **Blue-eyed Grass**

Wet grassy or mossy open places; most common in Oak Bay, Royal Oak, and Sidney; including plants determined as *S. idahoense* Bickn., *S. sarmentosum* Suksd., and *S. littorale* Greene. The classification of the blue-flowered *Sisyrinchiums* are extremely variable and require a thorough revision and, until they are carefully evaluated, we are referring all Saanich Peninsula plants to *S. angustifolium*.

***Sisyrinchium californicum* (Ker.) Dryand.** **Golden-eye Grass**

Moist places at lowland; rare; Prospect and Pike Lakes.

***Sisyrinchium douglasii* A. Dietr.** **Satin Flower**

Open, rocky outcrops; very common throughout in suitable habitats. (*S. grandiflorum* Dougl.)

Trillium (*Trillium ovatum*), a protected species found in damp woods throughout the area.

ORCHIDACEÆ: ORCHID FAMILY

***Calypso bulbosa* (L.) Oakes Calypso**

Cool, moist coniferous forest throughout; very abundant in the past; decreasing due to disturbance of suitable habitat; circumpolar.

***Corallorhiza maculata* Raf. Spotted Coral-root**

Moist or dry coniferous forest throughout; decreasing due to disturbance of suitable habitat; var. *flavida* (Peck) Cockerell is rare and restricted to Mount Douglas Park, where it was collected by A. F. Szczawinski in 1962. (*C. multifida* Nutt.)

***Corallorhiza mertensiana* Bongard Western Coral-root**

Moist to semidry coniferous forest; not as common as *C. maculata;* occasional throughout. *C. mertensiana* shows affinities with *C. maculata* and it is sometimes difficult to separate these species, both species require more critical studies to solve their taxonomy. (*C. maculata* ssp. *mertensiana* (Bong.) Calder & Taylor)

***Corallorhiza striata* Lindl. Striped Coral-root**

Moist coniferous forest, shaded ravines and canyons; occasional throughout; becoming rare.

***Corallorhiza trifida* Chat. Northern Coral-root**

Rare; known only from the Highland district, where it was collected by A. F. Szczawinski in 1958.

***Cypripedium montanum* Dougl. Mountain Lady's-slipper**

Very rare; the only known record for the area came from Cordova Bay; now believed to be extinct on the peninsula.

****Epipactis helleborine* (L.) Crantz. Heleborine**

Native of Europe; escapee from cultivation and spreading in cool, shady, waste places; becoming weedy in some neglected gardens.

***Goodyera oblongifolia* Raf. Green-leaved Rattlesnake Orchid**

Moist or semidry coniferous forest; throughout; still locally very abundant.

***Habenaria dilatata* (Pursh) Hook. Tall White Bog-orchid**

Swampy and wet meadows; Beaver Lake, Goldstream, and the Highland district; not collected recently; var. *leucostachys* (Lindl.) Ames, is known from Esquimalt, Goldstream, and the Highland district, where it is locally quite abundant. (*H. graminifolia* (Rydb.) Henry)

***Habenaria hyperborea* (L.) R. Br. Green-flowered Bog-orchid**

Swamp and wet meadows; sporadic throughout.

***Habenaria orbiculata* (Pursh) Torr. Large Round-leaved Orchid**

Very rare; our only record is from Thetis Lake, where it was collected by H. Toms in 1929.

***Habenaria saccata* Greene Slender Bog-orchid**

Rare; known only from Goldstream, where it was collected by G. A. Hardy in 1924. (*H. stricta* (Lindl.) Rydb.)

***Habenaria unalascensis* (Spreng.) S. Wats. Wood Rein Orchid or Slender-spire Orchid**

Grassy, open places, dry coniferous forests, chaparral; occasional throughout; most abundant in the Highland district; var. *elata* (Jepson) Correll occurs more commonly than the species, in open forests or dry sites. (*H. elegans* (Lindl.) Bolander, *H. michelii* sensu Henry)

***Habenaria viridis* (L.) R. Br. var. *bracteata* (Muhl.) A. Gray Bracted Orchid**

Listed in Henry's *Flora* as occurring at Goldstream; specimen not examined. (*H. bracteata* R. Br.)

***Listera cordata* (L.) R. Br.** **Heart-leaved Twayblade**

Mossy, damp coniferous forest; frequent in forested areas of West and North Saanich and Goldstream.

***Spiranthes romanzoffiana* Cham.** **Hooded Ladies' Tresses**

Open, grassy places and parklands; becoming rare; occasional in Uplands Park, Sidney, and the Highland district. (*S. porrifolia* Lindl.)

SALICACEÆ: WILLOW FAMILY

******Populus alba* L.** **Silver Poplar**

Native of Eurasia; frequently planted and an occasional escapee from cultivation.

******Populus canescens* Sm.** **Gray Poplar**

Native of Eurasia; planted as an ornamental tree and a frequent escapee from cultivation; often forming groups of many trees by vegetative spread and, therefore, should be introduced with caution, as the suckers from the widespread root system could clog drains with which it comes in contact. A number of other exotic species of poplar are cultivated in the peninsula, but only the two mentioned above are established outside cultivated areas.

***Populus tremuloides* Michx.** **Trembling Aspen**

Common throughout the area; because of its attractive habit, frequently introduced to many gardens; caution should be used as the widespread root system will clog drains.

***Populus trichocarpa* T. & G.** **Black Cottonwood**

Along streams, lakeshores, and wet places; occasional throughout.

***Salix geyeriana* Anderss.** **Geyer's Willow**

Wet meadows, stream banks, and thickets; common throughout; represented by var. *meleina* Henry. (*S. meleina* G. N. Jones, *S. macrocarpa* Nutt.)

***Salix lasiandra* Benth. s. lat.** **Red Willow**

Along banks and margins of lakes; common throughout. Most of our material belongs to var. *lasiandra* and some to var. *macrophylla* (Anderss.) Little and var. *lancifolia* (Anderss.) Bebb. (*S. lancifolia* Anderss.)

***Salix rigida* Muhl.** **MacKenzie's Willow**

Moist ground; throughout. Our material includes var. *macrogemma* (Ball) Cronq. and var. *mackenziana* (Hook.) Cronq. (*S. mackenziana* Barratt, *S. cordata* Muhl.)

***Salix scouleriana* Barratt** **Scouler's Willow**

Along streams and wet places; one of our commonest willows with catkins that are developed before leaves expand. (*S. scouleriana* f. *poikila* C. Schneider)

***Salix sitchensis* Sanson** **Sitka Willow**

Stream banks and wet woods; widely distributed throughout; vegetatively much like *S. scouleriana*. (*S. coulteri* Anderss.)

MYRICACEÆ: SWEET GALE FAMILY

***Myrica gale* L.** **Sweet Gale**

Swamps; known from Durrance Lake and Rithet's Bog at Royal Oak.

BETULACEÆ: BIRCH FAMILY

***Alnus rubra* Bong.** **Red Alder**

Moist woods, along the ditches and wet shoreline; common in suitable habitats throughout. (*Alnus oregona* Nutt.)

***Alnus crispa* ssp. *sinuata* (Regel) Hult.** **Sitka Alder**

Moist places, margins of streams and lakes; rare; restricted to Goldstream and the Langford areas. (*A. sitchensis* (Regal) Sarg., *A. sinuata* (Regal) Rydb.)

***Betula papyrifera* Marsh. var. *commutata* (Regel) Fern.** **Western White Birch or Western Paper Birch**

Low, wet ground; apparently rare on Vancouver Island; scattered colonies occur in the Lost Lake and Sidney areas. *B. papyrifera* is a wide-range species, differentiated into several varieties; all our material is referable to var. *commutata.*

***Betula pumila* L. var. *glandulifera* Regel.** **Swamp Birch**

Margins of marshes; lakes and peat bogs; Rithet's Bog and Lost Lake. In the past, it has been customary to recognize this species either as a separate species, *B. hallii* Howell, or as a variety of the eastern *B. pumila,* or as a variety of *B. glandulosa.* This interesting species requires more critical study to solve the relationship between the various taxa involved, and for the time being the authors prefer to use the more customary name of *B. pumila* var. *glandulifera.* (*B. glandulosa* var. *hallii* Howell)

Some exotic species of birches can be found occasionally growing in Royal Oak and a few other areas; Eurasian Silver Birch (*Betula verrucosa* Ehrh.) and European Birch (*Betula pubescens* Ehrh.) are the most common among them.

***Corylus cornuta* Marsh. var. *californica* (DC.) Sharp** **Hazelnut**

Open to shady woods, along streams; frequent in the Langford, Highland, and Goldstream areas, occasional in Central and North Saanich; *C. californica* Rose var. *cornuta* known from the northern Interior does not enter the area of study. (*C. californica* Rose)

FAGACEÆ: BEECH FAMILY

***Quercus garryana* Dougl.** **Garry Oak**

Dry, open, rocky sites; common throughout; only native oak to British Columbia.

A number of introduced oak species can be found growing on the peninsula, the most common being the European *Q. robur* L. and the evergreen *Q. ilex* L.

URTICACEÆ: NETTLE FAMILY

****Urtica dioica* L.** **Northwest Nettle**

Native of Eurasia and perhaps never a native in North America; moist ground in wooded or shady areas; common throughout; represented by var. *lyallii* (Wats.) C. L. Hitchc. (*U. lyallii* Wats., *U. gracilis* Ait.)

****Urtica urens* L.** **Dog Nettle**

Native of Europe; occasional weed in gardens and disturbed places.

SANTALACEÆ: SANDALWOOD FAMILY

***Comandra umbellata* (L) Nutt.** **Bastard Toad-flax**

Dry, open ground; rare; Elk Lake, Colwood, and Langford; represented by var. *californica* (Eastw.) C. L. Hitchc. (*C. californica* Eastw.)

ARISTOLOCHIACEÆ BIRTHWORT FAMILY

***Asarum caudatum* Lindl.** **Wild Ginger**

Moist, shaded woods; restricted mainly to Goldstream Park.

POLYGONACEÆ: KNOTWEED FAMILY

***Polygonum amphibium* L.** **Water Persicaria**

Ponds and swamps throughout; represented by var. *natans* Michx., locally abundant; cosmopolitan. (*P natans* Gulenst.)

Polygonum aviculare L. **Common Knotweed**

Native of Europe; open, waste places, hard-packed soil and disturbed cultivated land; a common and aggressive weed throughout; a number of segregates have been proposed, but only critical study of the taxa involved can clarify the status and the nomenclature of this complex. (*P. littorale* Link)

***Polygonum coccineum Muhl.** **Swamp Persicaria**

Partly submerged; rare; known from Beaver and Elk Lakes; extremely variable and closely related to *P. amphibium* with which it most likely merges. (*P. amphibium* var. *coccineum* Farw.)

***Polygonum convolvulus L.** **Black Bindweed**

Native of Europe; common weed of cultivated and waste places; very abundant throughout.

Polygonum fowleri Robins. **Fowler's Knotweed**

Around coastal salt marshes, occasional on beaches; collected at the Outer Wharf in Victoria by J. Macoun in 1913; similar in appearance to *P. aviculare.* (*P. buxifolium* Nutt.)

***Polygonum hydropiper L.** **Smart Weed**

Native of Europe; occasional in cultivated fields and waste places. (*Persicaria hydropiper* Opiz.)

Polygonum hydropiperoides Michx. **Water Pepper**

Moist and swampy areas, often growing in mud; sporadic throughout. (*Persicaria hydropiperoides* Small)

Polygonum lapathifolium L. **Dock-leaved Persicaria**

Possibly introduced from Europe; widely distributed throughout in wet places; locally a common weed; variable species with a number of segregates recognized; form with tomentose leaves is often given specific status (*P. tomentosum* Schrank); some floras include this species in the synonomy of *P. Scabrum* Moench. (*Persicaria lapathifolium* S. F. Gray)

Polygonum paronychia C. & S. **Beach Knotweed**

Sandy dunes and beaches only; locally abundant in suitable habitat.

***Polygonum persicaria L.** **Spotted Knotweed**

Native of Europe; a common and widely distributed weed throughout; mostly on moist, cultivated land.

***Polygonum sachalinense F. Schmidt** **Sachaline or Giant Knotweed**

Native of Japan and the Sachalin Islands; escapee from cultivation and established in some areas. *P. polystachyum* Wall., a native of Asia, resembles in habit *P. sachalinense* which is often cultivated as an ornamental and has managed to establish itself in some areas on the peninsula.

Polygonum spergulariæforme Meisn. **Fall Knotweed**

On gravelly or sandy soil; occasional throughout.

***Rumex acetosa L.** **Sour Dock**

Native of Eurasia; occasional escapee from cultivation and well established in many areas.

***Rumex acetosella L.** **Red Sorrell**

Native of Europe; a very common and troublesome weed throughout. (*R. angiocarpus* Murb.)

***Rumex conglomeratus Murr.** **Clustered Dock**

Native of Europe; sporadic and weedy in open and disturbed habitats throughout.

***Rumex crispus L.** **Curly-leaved Dock**

Native of Europe; weedy species, naturalized and common throughout.

Rumex maritimus L. **Seaside Dock**

Sporadic on the beaches along the coast. Our material is often considered as var. *fueginus* (Phil.) Dusén. (*R. fuegimus* Phil.)

***Rumex obtusifolius* L.** **Broad-leaved Dock**

Native of Europe; a roadside and wet wasteland weed; common locally. Our material can be referred to ssp. *agrestis* (Fr.) Danser.

***Rumex occidentalis* Wats.** **Western Dock**

Wet ground and swampy areas; occasional throughout; variable. (*R. fenestratus* Greene)

***Rumex salicifolius* Weinm. s. lat.** **Coastal Willow-leaved Dock**

Sand dunes and wet sandy ground; locally abundant throughout. A number of segregates at the specific level have been recognized within this variable species. We consider that the peninsula material belongs to *R. salicifolius* in the broad sense, fully realizing that geographical variants do exist in this polymorphic complex. (*R. transitorius* Rech., *R. mexicanus* Meisn.)

CHENOPODIACEÆ: GOOSEFOOT FAMILY

***Atriplex patula* L.** **Common Orache**

Along the coast, mostly on saline soil; common throughout. This species is extremely variable and a number of segregates have been proposed, var. *obtusa* (Cham.) C. L. Hitchc. is represented on the peninsula. (*A. patula* var. *obtusa* (Cham.) Peck, *A. patula* ssp. *obtusa* (Cham.) Hall & Clements, *A. gmelini* C. A. May., *A. hastata* sensu Carter & Newcombe, in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands*)

***Chenopodium album* L. s. lat.** **Lamb's Quarters**

Native of Eurasia; garden and waste places; naturalized and a very common weed throughout. A number of segregates were proposed for the *C. album* complex, but the taxonomic relationship of the segregates is not very clear and their formal recognition must await a detailed study. (*Atriplex alba* Crantz, *C. lanceolatum* Muhl.)

***Chenopodium capitatum* (L) Asch.** **Strawberry-blite**

Native of Eurasia; occasional; disturbed soil and waste places; Victoria and Cedar Hill. (*Blitum capitatum* L., *C. overi* Allen)

***Chenopodium hybridum* L.** **Maple-leaved Goosefoot**

Native of Europe; listed is Henry's *Flora* as occuring in Victoria; specimen not examined. (*Atriplex hybrida* Crantz)

***Chenopodium murale* L.** **Nettle-leaved Goosefoot**

Native of Europe; rare; waste places; collected at Victoria by W. B. Anderson in 1917 and M. C. Melburn in 1957. (*Atriplex muralis* Crantz)

***Chenopodium rubrum* L.** **Red Goosefoot**

Saline soil along the coast; sporadic. (*C. humile* Hook., *C. rubrum* var. *humile* (Hook.) Moq., *Atriplex rubra* Crantz)

***Chenopodium urbicum* L.** **Upright Goosefoot**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

***Salicornia virginica* L.** **Glasswort**

Salt marshes and beaches along the coast; locally abundant in suitable habitats; the relationship between the European plant or with those of the east coast seems questionable and requires critical study. (*S. pacifica* Standl., *S. ambigua* Michx.)

***Suæda maritima* (L) Dumort.** **Sea Blite**

Salt marshes along the coast; rare; a complex species; coastal material has been recognized as *S. maritima* by most authors. (*Chenopodium maritimum* L., *Atriplex maritima* Crantz, *Salsola maritima* Poir.)

AMARANTHACEÆ: AMARANTH FAMILY

***Amaranthus græcizans* L.** **Tumble Weed Amaranth**

Common weed of cultivated lands; introduced from tropical America and well established in Victoria, Saanich, Prospect Lake, and the Sidney area. (*A. blitoides* Wats.)

***Amaranthus retroflexus* L.** **Pigweed Amaranth**

Common weed of cultivated fields; introduced from tropical America and well established throughout.

NYCTAGINACEÆ: FOUR-O'CLOCK FAMILY

***Abronia latifolia* Esch.** **Yellow Sand Verbena**

Common on sandy beaches; abundant at the Esplanade, Oak Bay, Island View Beach, and Sidney Spit; decreasing due to disturbance of its habitat.

PORTULACACEÆ: PURSLANE FAMILY

***Calandrina ciliata* (R. & P.) DC.** **Rose Calandrina**

Moist, gravelly soil; sporadic in Victoria, Oak Bay, Saanich, and Esquimalt; represented by var. *menziesii* (Hook.) Macbr. (*Talinum ciliatum* R. & P.)

***Montia dichotoma* (Nutt.) How.** **Dwarf Montia**

Moist ground; sporadic and most common in the Lost Lake area; easily confused and difficult to separate from *M. linearis.* (*Claytonia dichotoma* Nutt.)

***Montia fontana* L.** **Water Chickweed**

Aquatic to terrestrial; Lost Lake, Prospect Lake, and Goldstream; represented mostly by var. *tenerrima* (Gray) Fern. & Wieg. (*M. lamprosperma* Cham.)

***Montia howellii* Wats.**

Moist, open places; sporadic; Uplands, Cadboro Bay, Island View Beach, and Thetis Lake Park. (*Claytonia howellii* Piper)

***Montia linearis* (Dougl.) Greene** **Narrow-leaved Montia**

Damp ground; very common throughout (*Claytonia linearis* Dougl.).

***Montia parvifolia* (Moc.) Greene** **Stream-bank Spring Beauty**

Mossy banks, wet rocks, and shady places; common throughout; our plants with broadly ovate leaves have been recognized as a distinct species *M. flagellaris* or as a infraspecific segregate of *M. parvifolia.* (*Claytonia parvifolia* Moc., *M. flagellaris* Bong.)

***Montia perfoliata* (Donn) How. s. lat.** **Miner's Lettuce**

Open to shady, moist ground; extremely variable and common throughout. A number of segregates have been recognized, but there are no geographic races evident within the complex. (*M. parviflora* How., *Claytonia perfoliata* Donn, *C. parviflora* Dougl.)

***Montia saxosa* Bdg.**

Mossy, rocky outcrops; only known records are from Uplands Park, where it was collected a number of times by M. C. Melburn, 1962–67. To our knowledge, this is the first and only record for the Province. (*Claytonia saxosa* Bdg.)

***Montia sibirica* (L) How. s. lat.** **Western Spring Beauty**

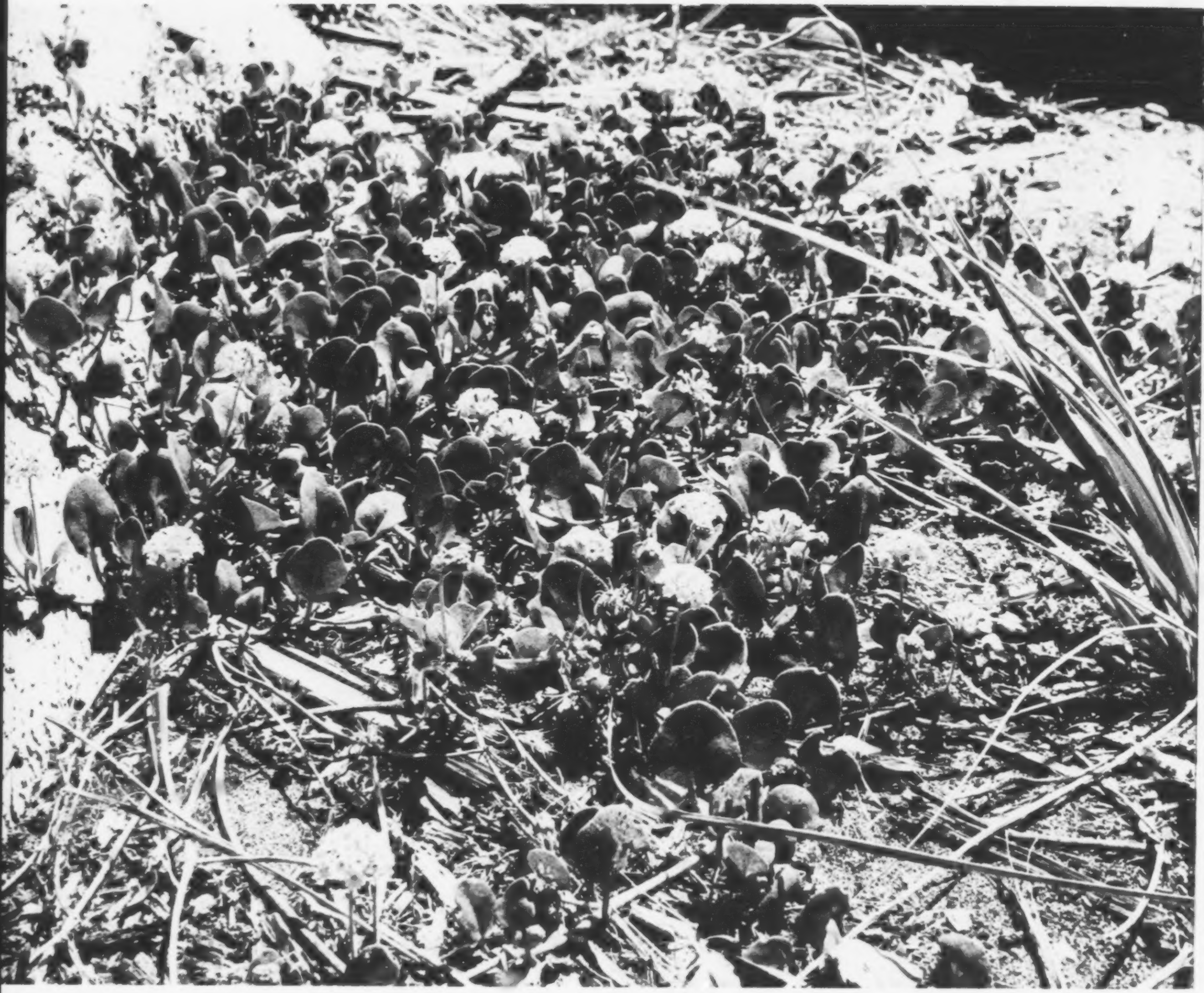
Moist woods and thickets; common throughout. A number of proposed segregates include *M. alsinoides* Sims. and *M. asarifolia* (Bong.) How.; it is possible that the variation could be attributed to local ecological conditions. (*Claytonia sibirica* L.)

***Montia spathulata* (Dougl.) How.** **Pale Montia**

Dry, sandy ground; occasional throughout. (*Claytonia spathulata* Dougl.)

****Portulaca oleracea* L.** **Purslane**

Native of Europe; weedy; sparingly established in cultivated areas.



Yellow sand verbena (*Abronia latifolia*), typical of sandy beaches, most abundant on Island View Beach and Sidney Spit.

CARYOPHYLLACEÆ: PINK FAMILY

***_Agrostemma githago_ L.** **Corn-cockle**

Native of Europe; occasional; weed of cultivated grain fields. (*Silene githago* Krause)

***Arenaria capillaris* Poir.**

Rocky slopes; rare; known from Mount Finlayson, where it was collected by G. A. Hardy in 1952; our material is recognized as var. *americana* (Maguire) Davis. (*A. capillaris* ssp. *americana* Maguire)

***Arenaria macrophylla* Hook.** **Large-leaved Sandwort**

Moist, dry, shaded to open woods and rocky slopes; throughout in suitable habitat.

***Arenaria rubella* (Wahlenb.) Sm.**

Rocky slopes and dry open places, occasional; most common in the Goldstream and Highland districts. (*A. verna* of American authors but not of L.)

***_Arenaria serpyllifolia_ L.** **Thyme-leaved Sandwort**

Native of Europe; dry, sandy areas; occasional; Victoria, Oak Bay, Thetis Lake Park, and Goldstream.

***Arenaria stricta* Michx.**

Dry places; occasional; Mount Douglas, Telegraph Bay, and Goldstream; polymorphic species, represented by var. *puberulenta* (Peck) C. L. Hitchc. (*A. macra* Nels. & Macbr., *A. stricta* ssp. *macra* (Nels. & Macbr.) Maguire)

***Cerastium arvense* L.** **Field Chickweed**

Grassy flats; rocky hillsides and dry to moist grassland; common throughout.

***Cerastium nutans* Raf.** **Nodding Mouse-ear**

Moist ground; rare; Victoria and Oak Bay. (*C. brachypodum* Robins)

***_Cerastium semidecandrum_ L.** **Little Mouse-ear**

Native of Europe; banks and slopes near the sea; sporadic; Victoria, Cadboro Bay, and Thetis Lake Park.

***_Cerastium tomentosum_ L.** **Dusty Miller**

Native of Europe; grown commonly as a rock-garden plant, often escaping; sporadic; in Victoria and Saanich.

***_Cerastium viscosum_ L.** **Mouse-ear Chickweed**

Native of Europe; fields and waste places throughout; a weedy species. (*C. glomeratum* Thuill.)

***Cerastium vulgatum* L.** **Large Mouse-ear Chickweed**

Lawns and gardens; weedy and common throughout.

***_Dianthus armeria_ L.** **Deptford Pink**

Native of Europe; a common garden annual; frequently escaping.

***_Dianthus deltoides_ L.** **Maiden Pink**

Native of Europe; commonly grown in gardens; an occasional escapee.

***_Holosteum umbellatum_ L.**

Native of Europe; weed of cultivated ground; Saanichton.

***Honkenya peploides* (L.) Ehrh.**

Coastal beaches; sporadic throughout; represented by ssp. *major* (Hook.) Hult. (*Arenaria peploides* L.)

***_Lychnis alba_ Mill.** **White Campion**

Native of Europe; occasional throughout. (*Silene alba* Krause)

******Lychnis coronaria*** **(L.) Desr.** **Mullein Pink**

Native of Europe; grown as an ornamental and often escapes; persists along roads, tracks, and wastelands. (*Agrostemma coronaria* L.)

******Lychnis dioica*** **L.** **Pink Campion**

Native of Eurasia; occasional in Victoria. (*Silene dioica* Clairv.)

******Mœnchia erecta*** **(L.) Gaertn., Mey. & Schreb.** **Upright Chickweed**

Native of Europe; locally abundant; Uplands and Thetis Lake Park. (*Sagina erecta* L.)

Sagina maxima **A. Gray** **Thick-stemmed Pearlwort**

Moist rocks and sandy soil; rare; collected at Ten Mile Point by J. W. Eastham in 1942. (*S. crassicaulis* S. Wats., *S. litoralis* Hult.)

Sagina occidentalis **Wats.** **Western Pearlwort**

Wet ground; sporadic; Lost Lake and Sidney areas.

******Sagina procumbens*** **L.** **Procumbent Pearlwort**

Native of Eurasia; occasional weed in moist, shaded gardens.

Sagina saginoides **(L.) Britt.**

Circumpolar; moist and muddy areas; rare; Victoria. (*Spergula saginoides* L.)

******Saponaria officinalis*** **L.** **Soapwort**

Native of Europe; grown as an ornamental; established in a few areas.

******Scleranthus annus*** **L.**

Native of Europe; an occasional weed in gardens and waste places.

Silene antirrhina **L.** **Sleepy Catchfly**

Dry, open places; rare; collected at Mount Douglas by G. A. Hardy in 1925.

******Silene armeria*** **L.** **Sweet William Catchfly**

Native of Europe; an occasional escapee from cultivation; Victoria.

******Silene cucubalus*** **Wibel.** **Bladder Campion**

Native of Europe; occasional weed in waste places.

******Silene gallica*** **L.** **Small-flowered Catchfly**

Native of Europe; commonly established and weedy throughout.

******Silene noctiflora*** **L.** **Night-flowering Catchfly**

Native of Europe; occasional weed in grain fields and waste places.

Silene scouleri **Hook. s. lat.** **Scouler's Pink**

Open timberland; common throughout; variable. We consider that the peninsula material belongs to *S. scouleri* in the broad sense, fully realizing that geographical segregates do exist.

******Spergula arvensis*** **L.** **Corn Spurry**

Native of Europe; widely introduced throughout.

Spergularia canadensis **(Pers.) G. Don.** **Northern Sand Spurry**

Coastal tidelands; occasional throughout; represented by var. *occidentalis* R. Rossb. (*Arenaria canadensis* Pers., *S. marina* sensu Carter & Newcombe)

Spergularia macrotheca **(Hornem.) Heynh.** **Beach Sand Spurry**

Beaches and salt marshes; common throughout.

******Spergularia marina*** **(L.) Griseb.** **Salt-marsh Sand Spurry**

Native of Europe; along the coast; common throughout. (*S. rubra* var. *marina* Gray, *Arenaria marina* Allini)

***_Spergularia rubra_ (L.) J. & C. Presl Sand Spurry**

Native of Europe; widely introduced throughout. (*Arenaria rubra* L.)

***_Stellaria alsine_ Grimm**

Native of Eurasia; sporadic as a lawn weed.

Stellaria calycantha Bong. s. lat. Northern Starwort

Wet soil; common throughout; circumpolar; variable with a number of geographic races described; requires critical studies. (*S. borealis* Bigel., *Arenaria calycantha* (Ledeb.) Bong)

Stellaria crispa C. & S. Crisped Starwort

Moist places; occasional; Victoria, Lost Lake, Gordon Head, Sidney, and the Goldstream area. Morphologically close to *S. calycantha*.

Stellaria longipes Goldie s.lat. Long-stalked Starwort

Wet meadows and streambanks; sporadic; Uplands and Sidney. Variable species with a number of segregates described; we consider that the peninsula material belongs to *S. longipes* in the broad sense, realizing geographical segregates in this polymorphic complex.

***_Stellaria media_ (L.) Cyrill Common Chickweed**

Native of Europe; widely distributed and a troublesome weed.

Stellaria nitens Nutt. Shining Chickweed

Grassy hillsides and gravelly soil; occasional throughout.

NYMPHAECEÆ: WATER LILY FAMILY

Brasenia schreberi Gmel. Water Shield

Margins of shallow lakes; sporadic; Saanich and the Highland district. (*Hydropeltis purpurea* Michx.)

Nuphar polysepalum Engelm. Yellow Water Lily

Ponds and shallow lakes; common throughout. (*Nymphæa polysepala* Greene)

Nuphar variegatum Engelm. Bullhead-lily

Ponds and shallow lakes; rare; collected by T. C. Brayshaw in 1969 at Swan Lake. (*Nymphæa variegata* Mill.)

***_Nymphæa mexicana_ Zuccarini Mexican Water Lily**

Native of Mexico and Florida; shallow lakes; rare; known only from Elk Lake, where it was collected by T. C. Brayshaw in 1970.

***_Nymphæa odorata_ Ait. Fragrant Water Lily**

Native of eastern United States, shallow lakes; rare; known from Prospect Lake, where it was collected by A. F. Szczawinski in 1969.

CERATOPHYLLACEÆ: HORNWORT FAMILY

Ceratophyllum demersum L. Hornwort

Lakes and ponds; sporadic; Swan, Blenkinsop, Beaver, Elk, and Langford Lakes, where it is sometimes very abundant forming solid mats just below the surface of shallow water.

RANUNCULACEÆ: BUTTERCUP FAMILY

Aconitum columbianum Nutt. Monkshood

Reported by M. C. Melburn from Victoria in 1953; out of its range and most likely planted.

Actea rubra (Ait.) Willd. Baneberry

Moist woods and streambanks; sporadic in the Saanich and Highland wooded areas; represented by ssp. *arguta* (Nutt.) Hult.; the white-fruited forma *neglecta* (Gillman) Robins. does not occur on the peninsula. (*A. arguta* Nutt., *A. spicata* var. *rubra* Ait.)

Anemone lyallii **Britt.** **Little Mountain Anemone**

Woods, thickets, and open parkland; abundant in the past; becoming rare; Beacon Hill, Saanich, and Goldstream.

Aquilegia formosa **Fish.** **Western Columbine**

Open woods and thickets; widely distributed throughout. (*A. columbiana* Rydb., *A. canadensis* var. *formosa* Wats.)

Caltha asarifolia **DC.** **Marsh Marigold**

Wet places; rare; known only from Blenkinsop Road, where it was collected by M. C. Melburn in 1958 and 1959. (*C. palustris* ssp. *asarifolia* Hult.)

Delphinium menziesii **DC.** **Menzies' Larkspur**

Coastal bluffs, grassy meadows, and wooded dry places; common throughout in suitable habitats; represented by var. *menziesii* in the area of study.

Myosurus minimus **L.** **Mouse-tail**

Moist ground; sporadic; Oak Bay, Saanich, and Sidney; decreasing in its distribution. (*M. lepturus* Howell, *M. tenellus* Greene, *M. minimus* var. *major* (Greene) Davis)

******Nigella damascena*** **L.** **Love-in-a-mist**

Native of Europe; escapee from cultivation; sporadic.

******Ranunculus acris*** **L.** **Tall Buttercup**

Native of Europe; widely established on moist soil throughout.

Ranunculus alismæfolius **Geyer ex Benth. s. lat.** **Plantain-leaved Buttercup**

Swampy ground and margins of ponds; sporadic in Uplands, Oak Bay, and Cadboro Bay; decreasing; variable; represented by a number of geographic races. (*R. hartwegi* Greene)

Ranunculus aquatilis **L.** **White Water Buttercup**

Ponds and sluggish streams; occasional throughout; our material includes var. *capillaceus* (Thuill.) DC. and var. *hispidulus* Drew. (*R. trichophyllus* Chaix, *Batrachium porteri* Rydb.)

Ranunculus cymbalaria **Pursh** **Seaside Buttercup**

Wet saline or alkaline soils; occasional; North Saanich, Sidney, and Goldstream; decreasing; represented by var. *saximontanus* Fern.

Ranunculus flammula **L.** **Smaller Creeping Buttercup**

Wet ground to partly submerged; common throughout in suitable habitats. Chiefly on the basis of leaf width, *R. flammula* is often divided into several taxa, var. *filiformis* (Michx.) Hook., to which most of our material is referable, differs from var. *flammula* (common form in Europe) in having much smaller flowers and a more freely rooting system. (*R. filiformis* Michx.)

Ranunculus lobbii **(Hiern) Gray** **Lobb's Water Buttercup**

Aquatic annual; rare; known from Colwood, where it was collected by C. F. Newcombe in 1919 and Lost Lake, where it was collected by W. A. Newcombe in 1929; not collected since in the area.

Ranunculus macounii **Britt.** **Macoun's Buttercup**

Wet places; sporadic in Beaver Lake and Sidney. (*R. oreganus* Howell, *R. oreganus* ssp. *macounii* Piper)

Ranunculus occidentalis **Nutt. s. lat.** **Western Buttercup**

Moist to well-drained dry soil; common throughout. The *R. occidentalis* complex requires more study before its infraspecific taxonomy is fully clarified.

Ranunculus orthorhynchus **Hook.** **Western Swamp Buttercup**

Moist fields and streams; common throughout; most of our material is represented by var. *platphyllus* Gray. (*R. platphyllus* A. Nels., *R. macranthus* Brew. & Wats.)

***Ranunculus repens L.** **Creeping Buttercup**

Native of Europe; commonly established in most areas; a noxious garden weed.

Ranunculus sceleratus L. **Celery-leaved Buttercup**

Brackish, grassy places; rare; collected in Island View Beach by A. Hockly in 1968; represented by var. *multifidus* Nutt. (*R. eremogenes* Greene)

Ranunculus uncinatus D. Don. **Little Buttercup**

Moist soil; common throughout. (*R. bongardii* Greene, *R. tenellus* Nutt.)

Thalictrum occidentale Gray **Western Meadow-rue**

Open woods and meadows; sporadic in Sidney and Goldstream.

Trautvetteria carolinensis (Walt.) Vail **False Bugbane**

Moist woods and along streams; restricted to the Goldstream area; represented by var. *occidentalis* (Gray) C. L. Hitchc. (*T. saniculifolia* Greene)

BERBERIDACEÆ: BARBERRY FAMILY

Achlys triphylla (Smith) DC. **Vanilla-leaf or Deer-foot**

Shady, moist woods, occasionally in open, moist places and along streams; fairly common in Royal Oak, Saanichton, Sidney, Langford, and Goldstream and occasional throughout in suitable habitats.

Berberis aquifolium Pursh **Oregon Grape or Mahonia**

Woods, thickets, and open exposed slopes; very common throughout the area; suitable for cultivation as an ornamental shrub. (*Mahonia aquifolium* Nutt.)

Berberis nervosa Pursh **Long-leaved Oregon Grape**

Open woods and thickets; widely distributed and common throughout in suitable habitats (*Mahonia nervosa* Nutt.).

***Vancouveria hexandra (Hook.) Morr. & Dec.** **Vancouveria**

This very attractive species of moist and shady woods of south Puget Sound (and southward to northwest California) is often cultivated in gardens and is occasionally found as an escapee in the Victoria area.

PAPAVERACEÆ: POPPY FAMILY

Eschscholtzia californica Cham. **California Poppy**

Roadsides and waste ground; very common in dry, open habitat throughout.

Meconella oregana Nutt. **White Meconella**

Open ground; Mount Douglas, Thetis Lake Park, Mount Finlayson, and Todd Inlet; sporadic. (*Platystigma oreganum* Brew. & Wats.)

***Papaver rhœas L.** **Field Poppy**

Native of Europe; escapee from cultivation; in waste places and old fields.

***Papaver somniferum L.** **Opium Poppy**

Native of Europe; grown as an ornamental; occasional escapee from cultivation.

FUMARIACEÆ: BLEEDING HEART FAMILY

Corydalis aurea Willd. **Golden Corydalis**

Rare; known only from Victoria, where it was collected by M. C. Melburn in 1958, possibly escaped from cultivation. (*Fumaria aurea* Edwards)

Corydalis scouleri Hook. **Western Corydalis**

Moist, shady places; very rare; known only from Old West Saanich Road, where it was collected by M. C. Melburn in 1959. (*C. macrophylla* Nutt.)

***Dicentra formosa* (Andr.) Walp.** **Bleeding Heart**

Moist, shady woods; occasional throughout. (*Fumaria formosa* Andr., *Corydalis formosa* Pursh)

****Fumaria officinalis* L.** **Fumitory**

Native of Europe; an occasional weed of cultivated ground.

CRUCIFERÆ: MUSTARD FAMILY

****Alliaria officinalis* Andrz.** **Alliaria**

Native of Eurasia; waste places and disturbed ground; locally well established. (*Erysimum alliaria* L., *Sisymbrium alliaria* Scop.)

****Alyssum alyssoides* L.** **Small Alyssum**

Native of Europe; waste places on dry soil; well established and weedy in some areas.

****Arabidopsis thaliana* (L.) Schur.** **Mouse-ear Cress**

Native of Europe; weedy; shady banks; sporadic; Cadboro Bay, Royal Oak, Saanichton, and Thetis Lake Park. (*Sisymbrium thalianum* Gay, *Arabis thaliana* L.)

****Arabis glabra* (L.) Bernh.** **Tower Mustard**

Native of Europe; open ground; widely established throughout.

***Arabis hirsuta* (L.) Scop.**

Circumpolar; rock ledges and hillsides; occasional; Sidney, Mount Finlayson, and Millstream; represented by var. *eschscholtziana* (Andrz.) Rollins. (*A. eschscholtziana* Andrz., *A. hirsuta* ssp. *eschscholtziana* (Andrz.) Hult.)

***Arabis holboellii* Hornem.** **Holboell's Rock Cress**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

***Athysanus pusillus* (Hook.) Greene** **Sandweed**

Sandy ground and dry, open places; sporadic throughout.

****Barbarea verna* (Mill.) Asch.** **Early Winter-cress**

Native of Europe; damp places; rare; restricted to the Oak Bay area. (*Erysimum vernum* Mill.)

***Barbarea vulgaris* R. Br.** **Common Winter-cress**

Wet places; common; represented by var. *brachycarpa* Rouy & Foucaud. (*Erysimum barbarea* L.)

****Brassica campestris* L.** **Field Mustard**

Native of Europe; widely escaped in waste ground throughout; represented by var. *rapa* (L.) Hartm. (*B. rapa* sensu many authors)

****Brassica juncea* (L.) Coss.** **Indian Mustard**

Native of Europe; locally established as a weed. (*Sinapsis juncea* L.)

****Brassica kaber* (DC.) Wheeler**

Native of Europe; common weed throughout. (*B. arvensis* Rabenh., *Sinapis arvensis* L.)

****Brassica nigra* (L.) Koch.** **Black Mustard**

Native of Europe; roadsides and waste ground; sporadic throughout. (*Sinapis nigra* L., *Sisymbrium nigrum* Prantl.)

***Cakile edentula* (Bigel.) Hook.** **Sea Rocket**

Along the coast; locally abundant; represented by var. *californica* (Heller) Fern. (*C. californica* Heller)

****Cakile maritima* Scop.**

Native of Europe; reported from sandy beaches in Victoria; specimen not examined.

******Camelina sativa* **(L.) Crantz.**   **False Flax**

Native of Europe; occasional weed of sandy soils; often confused with *C. microcarpa* Anderz.

******Capsella bursa-pastoris* **(L.) Medic.**   **Shepherd's Purse**

Native of Europe; common and widely distributed throughout.

***Cardamine angulata* Hook.**   **Angle-leaved Bitter Cress**

Wet ground; rare; known only from Mount Tolmie, where it was collected by G. A. Hardy in 1925 and Langford, where it was collected by A. F. Szczawinski in 1970.

***Cardamine breweri* Watson**   **Brewer's Bitter Cress**

Wet places; rare; known only from Beaver Lake, where it was collected by C. F. Newcombe in 1924.

******Cardamine hirsuta* **L.**

Native of Europe; sporadically occurring as a weed throughout; very similar to *C. oligosperma* but more pubescent and with smaller flowers.

***Cardamine oligosperma* Nutt.**   **Little Western Bitter Cress**

Wet places; very common throughout; similar to *C. pensylvanica* and *C. hirsuta*. (*C. oligosperma* var. *kamtschatica* (Regel) Delt., *C. umbellata* Greene)

***Cardamine pensylvanica* Muhl.**   **Pennsylvania Bitter Cress**

Moist places; sporadic throughout. (*C. hirsuta* f. *pensylvanica* (Rand) Redf.)

***Cardamine pulcherrima* (Robins.) Greene**

Moist woods; occasional; Uplands, Ten Mile Point, Mount Douglas, and Thetis Lake Park; represented in our area by var. *tenella* (Pursh) C. L. Hitchc. (*Dentaria tenella* Pursh)

******Cardaria draba* **(L.) Desv.**   **Hoary Cress**

Native of Europe; roadsides and fields; occasional as a weed. (*Lepidium draba* L., *Nasturtium draba* Crantz.)

******Conringia orientalis* **(L.) Dumort.**   **Hare's-ear Mustard**

Native of Europe; rare; known only from Swartz Bay, where it was collected by M. C. Melburn in 1959. (*Brassica orientalis* L., *Erysimum orientale* R. Br.)

******Coronopus didymus* **(L) J. E. Sm.**

Native of Europe; rare; known only from Beacon Hill Park, where it was collected by A. Hockly in 1966. (*Lepidium didymum* L.)

***Descurainia pinnata* (Walt.) Britt. s. lat.**   **Tansy Mustard**

Occasional weed; extremely variable in habit; we are referring all the peninsula material to *D. pinnata* without any infrascpecific designation. (*Erysimum pinnatum* Walt., *Sisymbrium canescens* Nutt.)

******Descurainia sophia* **(L) Webb.**   **Flixweed**

Native of Europe; waste places; a sporadic weed here. (*Sisymbrium sophia* L.)

***Draba nemorosa* L.**   **Wood Whitlow-grass**

Annual; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands* and by J. K. Henry in his *Flora of Southern British Columbia* as occurring in Victoria; specimens not examined. (*D. dictyota* Greene, *D. nemorosa* var. *lejocarpa* Lindbl.)

******Draba verna* **L.**   **Vernal Whitlow-grass**

Native of Europe; open, grassy plains; sporadic throughout; extremely variable, often segregated into a number of insignificant taxa; the peninsula material is represented by var. *boerhaavii* Van Hall. (*Erophila boerhaavii* Dumort.)

***_Erysimum cheiranthoides_ L.   Worm-seed Mustard**

Native of Europe; common weed of cultivated ground and waste places. (*E. parviflorum* Pers.)

***_Hesperis matrionalis_ L.   Damask Violet**

Native of Europe; locally established in waste places as a garden escapee and spreading.

Hutchinsia procumbens (L.) Desv.

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Beacon Hill and Victoria; specimens not examined. (*Lepidium procumbens* L.)

Idahoa scapigera (Hook.) Nels. & Macbr.   Flat-pod

Rocky, dry soil; occasional; Mount Douglas and Observatory Hill in Saanich; collected for the first time by C. F. Newcombe at Observatory Hill, Saanich, in 1920 and then by Miss W. Redfern at Mount Douglas, Saanich, in 1925; at the Provincial Museum in Victoria there are a number of collections from both localities, but the plant was not collected since 1952; Hitchcock (in Hitchcock *et al.*, 1964) points out that this species occurs chiefly on desert grassland or in sagebrush, on rocky and dry to moist soil; east of Cascades from Washington to California and Nevada, east to Idaho; not collected since 1952. (*Platyspermum scapigera* Hook.)

***_Lepidium campestre_ (L.) R. Br.   Field Cress**

Native of Eurasia; dry, open fields and open places; occasional agricultural weed throughout. (*Thlaspi campestre* L.)

Lepidium densiflorum Schrad. s. lat.   Dull Peppergrass

Dry, open places; occasional throughout; most likely introduced; peninsula material consists of a number of intergradients which are not discussed here.

***_Lepidium sativum_ L.   Garden Cress**

Native of Egypt and West Asia; cultivated as a salad herb all over the world; occasionally escaping from cultivation in some areas. (*Crucifera nasturtium* Krause)

***_Lepidium smithii_ Hook.   Smith's Cress**

Native of Europe; introduced and becoming quite abundant in South Saanich and Goldstream; in British Columbia known only from Vancouver Island.

***_Lepidium strictum_ (Wats.) Rattan**

Native of South America; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Cadboro Bay; specimen not examined. (L. *reticulatum* Howell)

Lepidium virginianum L.   Western Peppergrass

Dry, sandy ground; a very widely distributed weedy plant with a few geographic races; represented mainly by var. *pubescens* (Greene) C. L. Hitchc. (*L. menziesii* DC., *L occidentale* Howell)

***_Lobularia maritima_ (L.) Desv.   Sweet Alyssum**

Native of Asia; widely cultivated ornamental, persisting in some waste places in the Victoria area. (*Alyssum maritimum* Lam.)

***_Lunaria annua_ L.   Honesty**

Native of Europe; occasional escapee from cultivation.

***_Matthiola incana_ (L.) R. Br.   Stock**

Native of Europe; an occasional garden escapee in the Victoria area.

***_Neslia paniculata_ (L.) Desv.   Ball-mustard**

Native of Europe; open, waste places and cultivated ground; a common weed in the Sidney area.

***_Raphanus raphanistrum_ L.   Jointed Charlock**

Native of Eurasia; waste ground and fields; occasionally abundant.

***Raphanus sativus* L.** **Wild Radish**

Native of Europe; agricultural weed; common in some areas.

***Rorippa curvisiliqua* (Hook.) Bessey ex Britt.** **Western Yellow-cress**

Waste places; common throughout. (*Sisymbrium curvisiliqua* Hook., *Nasturtium curvisiliqua* Nutt.)

***Rorippa islandica* (Oed.) Borbas**

Circumboreal; wet places; sporadic; Victoria and Swan Lake; intergrades with *R. curvisiliqua*. (*R. palustris* (L.) Bess., *Nasturtium palustre* (L.) DC., *Sisymbrium islandicum* Oeder ex Borbas, *Radicula palustris* (L.) Moench)

****Rorippa nasturtium-aquaticum* (L.) Schinz & Thell.** **Water-cress**

Native of Europe; streams, ditches, and shallow water; sporadic and locally very abundant; used as a vegetable. (*Sisymbrium nasturtium-aquaticum* L., *Nasturtium officinale* R. Br., *Radicula nasturtium-aquaticum* Britt. & Rendle)

***Rorippa obtusa* (Nutt.) Britt.** **Blunt-leaved Yellow-cress**

Moist, sandy soil; sporadic; Victoria, Sidney, and Saanich Arm; tends to intergrade with *R. islandica* (*Nasturtium obtusum* Nutt.)

****Rorippa sylvestris* (L) Bess.**

Native of Eurasia; meadows and damp, cultivated ground; sporadic weed throughout. (*Sisymbrium sylvestre* L., *Nasturtium sylvestre* (L.) Br.)

****Sisymbrium altissimum* L.** **Tumble Mustard**

Native of Europe; a widespread weed; very common throughout.

****Sisymbrium officinale* (L.) Scop.** **Hedge Mustard**

Native of Europe; common agricultural weed throughout; glabrous-fruited plants are often distinguished as var. *leiocarpum* DC. (*Erysimum officinale* L.)

****Teesdalia nudicaulis* (L.) R. Br.**

Native of Europe; a sporadic weed throughout. (*Lepidium nudicaule* L.)

****Thalspi arvense* L.** **Field Penny Cress**

Native of Eurasia; common weed throughout.

***Thysanocarpus curvipes* Hook.**

Open hillsides and edge of woods; sporadic and quite abundant locally.

RESEDACEÆ: MIGNONETTE FAMILY

****Reseda alba* L.** **Upright Mignonette**

Native of Europe; occasional escapee from cultivation; collected in Victoria by L. J. Clark in 1968.

DROSERACEÆ: SUNDEW FAMILY

***Drosera rotundifolia* L.** **Round-leaved Sundew**

Sphagnum swamps and peat bogs; sporadic in suitable habitats throughout; common in the past but rapidly disappearing due to changes in drainage, and disappearance of sphagnum bogs; Royal Oak, Prospect Lake, Pike Lake, Goldstream, and the Highland district.

CRASSULACEÆ: STONECROP FAMILY

****Sedum acre* L.** **Wall-pepper**

Native of Europe; commonly cultivated; sometimes escaping from cultivation, but not persistent.

****Sedum album* L.** **White Stonecrop**

Native of Europe; occasionally escaping from cultivation.

***Sedum divergens* Wats.** **Spreading Stonecrop**

Rocky ledges and tallus slopes; rare; Victoria and Uplands; not collected recently.

***Sedum oreganum* Nutt.** **Oregon Stonecrop**

Rocky ledges and tallus slopes; rare; known from Victoria, Uplands, and the Oak Bay area.

***Sedum spathulifolium* Hook.** **Broad-leaved Stonecrop**

Coastal cliffs, ledges, and rocky outcrops; common throughout; suitable for rock gardens.

***Sedum stenopetalum* Pursh** **Narrow-petalled Stonecrop**

Open, grassy places; dry, gravelly beaches and rock crevices; sporadic and locally abundant. (*S. douglasii* Hook.)

SAXIFRAGACEÆ: SAXIFRAGA FAMILY

***Boykinia elata* (Nutt.) Greene** **Slender Boykinia**

Damp, shady woods and along streams; sporadic; most abundant at Goldstream. (*Saxifraga elata* Nutt., *B. nuttallii* Macoun)

***Heuchera chlorantha* Piper** **Narrow-flowered Heuchera**

Open ground to wooded areas; occasional throughout. (*H. cylindrica* sensu Rydb.)

***Heuchera cylindrica* Dougl. s. lat.** **Lava Heuchera**

Rocky soil, cliffs, and talus slopes; sporadic throughout; variable, and it is possible to recognize a number of taxa within the complex, which has been studied by many taxonomists. (*H. glabella* T. & G., *H. saxicola* E. Nels.)

***Heuchera micrantha* Dougl.** **Small-flowered Heuchera**

Moist, rocky slopes, crevices, and streambanks; occasional throughout; variable; represented by a number of geographic races; var. *diversifolia* (Rydb.) R. B. & L. occurs most commonly on the peninsula. (*H. diversifolia* Rydb.)

***Lithophragma parviflora* (Hook.) Nutt.** **Small-flowered Fringe-cup**

Open, rocky places and rocky outcrops; common throughout. (*Tellima parviflora* Hook.)

***Mitella ovalis* Greene** **Oval-leaved Mitrewort**

Moist, shady woods, along creeks; sporadic in the Goldstream area. (*M. hallii* Howell)

***Mitella pentandra* Hook.**

Moist woods and streambanks; rare; Goldstream area; not collected recently. (*Pectiantia pentandra* (Hook.) Rydb.)

***Saxifraga cæspitosa* L. s. lat.** **Tufted Saxifrage**

Rocky outcrops; occasional; Saanich, Royal Oak, Mount Douglas, Skirt Mountain, and Mount Finlayson; *S. cæspitosa* is treated here in the broad sense without going into the segregates of this complex.

***Saxifraga ferruginea* Grah. s. lat.**

Wet, rocky crevices; occasional; Goldstream and Langford; a variable species with a number of segregates described; we treat the Saanich Peninsula material of *S. ferruginea* in the broad sense without going into its taxonomic complexity. (*S. bongardii* Presl, *S. newcombei* Small)

***Saxifraga integrifolia* Hook. s. lat.** **Northwest Saxifrage**

Grassy slopes and wet banks; common throughout; a very variable species; we include all Saanich Peninsula material in a single taxon *S. ferruginea,* without discussing any of its infraspecific segregates. (*Micranthes integrifolia* Small)

***Saxifraga mertensiana* Bong.** **Merten's Saxifrage**

Rare; known only from Saanich Arm, where it was collected by J. R. Anderson in 1901 and Pike Lake in the Highland district by M. C. Melburn in 1966. (*S. mertensiana* var. *eastwoodiæ* Engler & Imscher)

Saxifraga occidentalis **Wats.** **Western Saxifrage**

Rocky banks and grassy slopes; occasional; Esquimalt, Langford, Goldstream, and Mount Finlayson; variable with numerous recognized segregates; represented mainly by var. *rufidula* (Small) C. L. Hitchc. (*S. rufidula* Macoun, *S. occidentalis* ssp. *rufidula* Bacigalupi)

Tellima grandiflora **(Pursh) Dougl.** **Large Fringe-cup**

In wooded areas, along streams, and on wet, fertile soil; Uplands, Cadboro Bay, Sidney, and Goldstream, and in a number of isolated localities; locally very abundant. (*T. breviflora* Rydb., *T. odorata* Howell, *Mitella grandiflora* Pursh)

Tiarella laciniata **Hook.** **Coolwort**

Rare; known from Goldstream Park, where it was collected by M. C. Melburn in 1962.

Tiarella trifoliata **L.** **Three-leaved Coolwort**

Moist woods and stream banks; very common locally; Saanichton, Sidney, Mount Douglas, and Goldstream.

Tiarella unifoliata **Hook.** **Western Coolwort**

Rare; known only from the Goldstream area, where it was collected by J. Macoun in 1898, not collected since.

GROSSULARIACEÆ: GOOSEBERRY FAMILY

Ribes bracteosum **Dougl.** **Stink Currant**

Moist, shady woods and streambanks; occasional in Thetis Lake Park, Goldstream, and the Highland district.

Ribes divaricatum **Dougl.** **Coast Black Gooseberry**

Moist, open woods and thickets; occasional throughout.

Ribes lacustre **(Pers.) Poir.** **Prickly Currant**

Woods and damp thickets; occasional throughout in suitable habitat. (*R. oxyacanthoides* var. *lacustre* Pers.)

Ribes lobbii **Gray** **Pioneer Gooseberry**

Open woods, slopes; occasional in Royal Oak, Saanichton, Sidney, and Goldstream; rapidly decreasing in its abundance; a very attractive shrub, often taken for cultivation.

Ribes sanguineum **Pursh** **Red-flowering Currant**

Open woodland; common throughout; a very attractive shrub; propagated commercially for horticultural use.

HYDRANGEACEÆ: HYDRANGEA FAMILY

Philadelphus lewisii **Pursh** **Western Syringa or Mock Orange**

Open, dry, wooded areas and talus slopes; occasional at Beacon Hill, Oak Bay, Saanichton, and Sidney; decreasing. (*P. gordonianus* Lindl., *P. lewisii* var. *gordonianus* (Lindl.) Jeps.)

ROSACEÆ: ROSE FAMILY

Alchemilla occidentalis **Nutt.** **Western Lady's-mantle**

Open, dry ground; sporadic; known from Beacon Hill, Uplands, Ten Mile Point, and Thetis Lake Park. (*A. cuneifolia* Nutt).

Amelanchier alnifolia **Nutt. s. lat.** **June or Service Berry**

Open woods, hillsides, and roadsides; common throughout. We consider the Saanich Peninsula material as belonging to *A. alnifolia* without going into taxonomical disposition of the taxa of this complex. *A. florida* Lindl. is considered as a part of *A. alnifolia,* a segregate occurring on the coast of the Pacific Northwest.

***Aruncus sylvester* Kost. s. lat.   Goat's-Beard**

Wooded, moist areas along streams; rare; known from Goldstream and Highland districts; not collected recently; often considered as a distinct species under the name *A. acuminatus* Rydb.

***Cratægus douglasii* Lindl.   Douglas' Hawthorn**

Coastal bluffs, meadow lands, open forests, and thickets; abundant throughout; represented by var. *suksdorfii* Sarg. (*C. brevispina* (Dougl.) Heller)

****Cratægus monogyna* Jacq.   May Hawthorn**

Native of Europe; escapee from cultivation and established in many areas.

****Cratægus oxycanthoides* Thuill   Hawthorn**

Native of Europe; much less common than *C. monogyna;* escapee from cultivation; Thetis Lake and the Saanich area.

****Filipendula rubra* Rob.   Queen-of-the-Prairie or Meadow-sweet**

Native to east North America; escapee from cultivation; Victoria.

***Fragaria* x *ananassa* Duchn. nm. *cunefolia* (Nutt. ex Howell) Staudt**

Coastal; most abundant in Beacon Hill and Goldstream; this is an introgression between the native and cultivated strawberry.

***Fragaria chilœnsis* (L.) Duchn.   Chilean or Coast Strawberry**

Along the coast; sporadic throughout the area; represented by ssp. *pacifica* Staudt. (*F. cuneifolia* Nutt., *F. vesca* var. *chilœnsis* L.)

***Fragaria vesca* L. ssp. *bracteata* (Heller) Staudt   Western Wood Strawberry**

Wooded areas, streambanks, and open grassland; common throughout. (*F. bracteata* Heller)

***Fragaria virginiana* ssp. *glauca* (Wats.) Staudt   Broad-petalled Strawberry**

Open land; common throughout. (*F. platypetala* Rydb.)

***Geum aleppicum* Jacq.   Yellow Avens**

Rare; known only from Victoria, where it was collected by W. B. Anderson in 1924; represented by var. *strictum* (Ait.) Fern. (*G. strictum* Ait.)

***Geum macrophyllum* Willd.   Large-leaved Avens**

Moist, shady ground; widely distributed throughout.

***Holodiscus discolor* (Pursh) Maxim.   Ocean-spray**

Streambanks and thickets throughout; one of the most common shrubs in the area. (*Spiræa discolor* Pursh)

***Osmaronia cerasiformis* (T. & G.) Greene   Indian Plum or Oso-berry.**

Open woods, roadsides; common throughout. (*Nuttallia cerasiformis* T. & G.)

***Physocarpus capitatus* (Pursh) Kuntze   Ninebark**

Moist woods, streambanks and lake margins; common throughout. (*Spiræa capitata* Pursh)

***Potentilla anserina* L.   Silvery Cinquefoil**

Mud flats, wet meadowland, margins of ponds and streams; occasional in suitable habitats. Taxonomic relationship between *P. anserina* and *P. pacifica* should be studied and it was suggested that the coastal *P. pacifica* represents a race of *P. anserina.* (*P. argentina* Huds.)

***Potentilla glandulosa* Lindl. s. lat.   Sticky Cinquefoil**

Open woody and grassy places; occasional throughout; variable, and a number of geographical races are evident. (*P. rhomboidea* Rydb.)

***Potentilla gracilis* Dougl. s. lat.   Slender Cinquefoil**

Grassland and open, wooded areas; widely distributed throughout and locally abundant; very variable and greatly diversified in its complex. (*P. nuttallii* Lehm., *P. flabelliformis* Lehm.)

Potentilla norvegica **L.** **Rough Cinquefoil**

Thickets and open woodlands; occasional; Victoria and the Highland district. (*P. monspeliensis* L.)

Potentilla pacifica **Howell** **Pacific Silver Cinquefoil**

Coastal dunes, sand flats, and marshes along the coast; sporadic throughout. For comments, *see P. anserina.*

Potentilla palustris **(L.) Scop.** **Marsh Cinquefoil**

Bogs, wet meadows, and lake margins; Beaver, Swan, Prospect, and Thetis Lakes. (*Comarum palustre* L.)

Potentilla rivalis **Nutt.**

Wet, grassy places; rare; known only from Thetis Lake Park and Goldstream. (*P. millegrama* Engelm. *P. leucocarpa* Rydb.)

Prunus emarginata **(Dougl.) Walp.** **Bitter Cherry**

Moist, woody, or open places; common throughout.

****Prunus spinosa*** **L.** **Blackthorn or Sloe**

Native of Europe; along the roads or borders of open fields; escapee from cultivation and well established in many areas; most abundant in Saanichton, Langford, and Royal Oak.

Prunus virginiana **L.** **Western Choke Cherry**

Streambanks, thickets, and rocky cliffs; Victoria and Esquimalt, not collected since 1924. (*P. demissa* Walp., *Cerasus demissa* Nutt.)

Pyrus fusca **Raf.** **Western Crabapple**

Moist woods, banks, and margins of lakes; common throughout. (*P. diversifolia* Bong., *Malus fusca* Schneider, *M. diversifolia* Roem.)

****Rosa eglanteria*** **L.** **Sweetbriar Rose**

Native of Europe; naturalized along roadsides and pastures. (*R. rubiginosa* L.)

Rosa gymnocarpa **Nutt.** **Little Wild Rose**

Moist to dry woods, occasionally in open; very common throughout.

Rosa nutkana **Presl** **Nutka Rose**

Open to wooded places, thickets; very common throughout. (*R. nutkana* var. *hispida* Fern.)

Rosa pisocarpa **Gray** **Clustered Wild Rose**

Thickets and open woods; Victoria, Uplands, Esquimalt, Saanich, and Sidney; common throughout.

****Rubus laciniatus*** **Willd.** **Evergreen Blackberry**

Origin unknown; probably native of Europe; widely distributed throughout.

Rubus leucodermis **Dougl.** **Western Blackcap**

Open woods, ditches, roadsides; widely distributed throughout. (*R. occidentalis* var. *leucodermis* Focke)

Rubus nivalis **Dougl.**

Rare; known only from Victoria, where it was collected by W. B. Anderson in 1921, not collected since.

Rubus parviflorus **Nutt.** **Thimble Berry**

Open to wooded places; very common throughout. (*R. parviflorus* var. *velutinus* (H. & A.) Greene)

***Rubus procerus Nuell.** **Himalaya Berry**

Native of Europe; an escapee and well established in some areas; this species is probably better known as *R. fruticosus* L. (*R. thyranthus* sensu Peck)

***Rubus spectabilis* Pursh** **Salmon Berry**

Borders of woods and open to wooded, moist areas; often forming thickets; very common throughout.

***Rubus ursinus* Cham. & Schlecht.** **Pacific Blackberry**

Clearings to fairly dense woodland; sporadic throughout; represented by var. *macropetalus* (Dougl.) Brown. (*R. macropetalus* Dougl., *R. vitifolius* sensu Abram)

***Sanguisorba annua* Nutt.**

Reported in Henry's *Flora* as occurring in Victoria; as *S. annua* occurs in the central United States, the record in Henry's *Flora* most likely refers to *S. occidentalis,* which is very similar in appearance. Also reported by M. C. Melburn from Thetis Park, but specimen not examined.

****Sanguisorba minor* Scop.** **Garden Burnet**

Native of Europe; waste places and grassy flats; occasional throughout.

***Sanguisorba occidentalis* Nutt.** **Annual Burnet**

Fields and sandy, open ground; occasional in Victoria, Saanich, and Sidney.

****Sorbus aucuparia* L.** **Mountain Ash**

Native of Europe; planted as an ornamental and an occasional escapee from cultivation. (*Pyrus aucuparia* L.)

***Sorbus sitchensis* Roemer.**

This native species is planted occasionally as a boulevard tree in Victoria. (*S. occidentalis* (Wats.) Greene, *Pyrus sitchensis* Piper, *P. occidentalis* Wats.)

***Spiræa douglasii* Hook.** **Western Spiræa**

Swamps, bogs, lake margins, and wet, swampy places; common throughout. (*S. menziesii* Hook.)

LEGUMINOSÆ: PEA FAMILY

****Cytisus scoparius* (L.) Link** **Scotch Broom**

Native of Europe; a very aggressive species, spreading rapidly in dry, open habitat; difficult to eradicate; f. *andreamus* (Puissant) Zabel with maroon-tipped wings occurs sporadically.

***Lathyrus japonicus* Willd.** **Beach Pea**

Sandy beaches and shoreline; very common in suitable habitats. (*L. maritimus* Bigel.)

****Lathyrus latifolius* L.** **Perennial Pea**

Native of Europe; along roads, shorelines, and beaches; very abundant locally.

***Lathyrus littoralis* (Nutt.) Endl.** **Grey Beach Pea**

Sea beaches and sand dunes; common on Saanichton Spit and Island View Beach.

***Lathyrus nevadensis* Wats. s. lat.** **Sierra Nevada Pea or Purple Pea**

Woodlands; most common in Sidney and Esquimalt; a polymorphic species consisting of a number of integradient races not recognizable at the specific level. (*L. nuttallii* Wats.)

****Lathyrus palustris* L.** **Marsh Pea**

Native of Europe; occasional; tide lands and swamps along the Coast; more common on the Gulf Islands.

****Lathyrus pratensis* L.** **Meadow Vetchling**

Native of Europe; occasionally introduced in grassy places throughout the area.

***Lotus corniculatus* L.** **Birds-foot Trefoil**

Native of Europe; wet, grassy land and lawns; occasional throughout the area.

***Lotus denticulatus* (Drew) Greene** **Meadow Lotus**

Open, grassy places; very common throughout the area. (*Hosackia denticulata* Drew)

***Lotus formosissimus* Greene** **Seaside Lotus**

Moist, open, grassy places; abundant in Victoria and Oak Bay. (*Hosackia gracilis* Benth.)

***Lotus micranthus* Benth.** **Small-flowered Lotus**

Open, grassy slopes and sandy flats; very common in suitable habitats throughout. (*Hosackia parviflora* Benth.)

***Lotus pinnatus* Hook.**

Listed in Henry's *Flora* as occuring in Victoria; specimen not examined. (*Hosackia bicolor* Dougl.)

***Lotus purshianus* (Benth.) Clements & Clements** **Spanish Clover**

Exposed rocky or sandy ground; Victoria, Oak Bay, and Telegraph Bay. (*Hosackia purshiana* Benth., *H. americana* Piper)

***Lotus tenuis* Waldst. & Kit.** **Slender Birds-foot Trefoil**

Native of Europe; introduced in the Gorge and Esquimalt areas; similar to *L. corniculatus,* but taller and more branched in appearance.

***Lupinus arboreus* Sims** **Tree Lupine**

Native of California; introduced in many gardens and naturalized in waste places, particularly along the Victoria, Oak Bay, and Uplands shorelines; a good sand-binder.

***Lupinus bicolor* Lindl.** **Bicolored Lupine**

Open, sandy ground; common throughout the area. (*L. micranthus* var. *bicolor* (Lindl.) Wats.)

***Lupinus latifolius* Agardh. s. lat.** **Broad-leaved Lupine**

Open woods on sandy soil; West Saanich, Lost Lake, Sidney, and the Highland district; locally quite common; northern heavily villous race, which is separable and has been called *L. arcticus* S. Wats. or var. *subalpinus* (Piper & Robins.) C. P. Smith.

***Lupinus lepidus* Dougl. s. lat.** **Prairie Lupine**

In the early 1900's it was very abundant in the Beacon Hill area; now restricted to Little Saanich Mountain only; a variable complex, with many taxa proposed representing geographic or ecological races. (*L. lyallii* Gray, *L. lobbii* Gray ex Wats.)

***Lupinus littoralis* Dougl.** **Seashore Lupine**

Beaches and dunes along the coast; common in the Sidney area.

***Lupinus micranthus* Dougl.** **Small-flowered Lupine**

Dry, open, grassy places, slopes, and parklands; common throughout.

***Lupinus microcarpus* Sims.** **Annual Lupine**

Annual; dry, open, coastal areas; represented in our area by var. *scopulorum* C. P. Smith and restricted to the seafront of Beacon Hill and Victoria; most records are from the early 1900's. (*L. densiflorus* var. *scopulorum* C. P. Smith)

***Lupinus oreganus* Heller** **Oregon Lupine**

Open woods; known from Victoria and Oak Bay; represented by var. *kincaidii* C. P. Smith. (*L. sulphureus* var. *kincaidii* (C. P. Smith) C. L. Hitchc.)

***Lupinus polyphyllus* Lindl.** **Large-leaved Lupine**

Moist ground; rare; Royal Oak and Esquimalt; var. *pallidipes* (Heller) C. P. Smith was reported from Oak Bay and Uplands. (*L. grandifolius* Lindl.)

***Medicago arabica* (L.) Hudson Spotted Medic**

Native of Europe; occasional in waste places throughout.

***Medicago hispida* Gaertn. Bur-clover**

Native of Europe; frequent in waste ground throughout. (*M. polymorphia* L.)

***Medicago lupulina* L. Black Medic**

Native of Europe; abundant and widely distributed in lawns and waste ground.

***Medicago sativa* L. Alfalfa or Lucerne**

Native of Europe; escapee from cultivation and well established in many areas.

***Melilotus alba* Desr. White Sweet Clover**

Native of Eurasia; widely distributed as a weed throughout.

***Melilotus officinalis* (L.) Lam. Yellow Sweet Clover**

Native of Europe; established in meadows and waste ground throughout. (*Trifolium officinalis* L.)

***Onobrychis viciæfolia* Scop. Saintfoin**

Native of Europe; grown for forage; escapee from cultivation in the Burnside and Sidney areas.

***Psoralea physodes* Dougl. California Tea**

Open woods and roadsides; frequent throughout.

***Robinia pseudo-acacia* L. False Acacia**

Native of the eastern United States; occasional along roads and farms.

***Trifolium agrarium* L. Hop Clover**

Introduced from Europe; occasional along roadsides and waste places. (*T. aureum* Poll.)

***Trifolium depauperatum* Desv. Poverty Clover**

Open, wet ground; sporadic; most common in Beacon Hill, Oak Bay, and Uplands Park; lack of recent collections indicate its decrease in abundance.

***Trifolium dubium* Sibth. Least Hop Clover**

Native of Europe; widely distributed in lawns and waste grounds throughout.

***Trifolium fucatum* Lindl. Sour Clover**

Listed in Henry's *Flora* as occuring in Cedar Hill; specimen not examined; most likely introduced. (*T. flavulum* Greene)

***Trifolium gracilentum* T. & G. Slender Clover**

Listed in Henry's *Flora* as occurring in Cedar Hill; specimen not examined.

***Trifolium hybridum* L. Alsike Clover**

Native of Europe; escapee from cultivation; frequent in Victoria, Oak Bay, and Sidney; in appearance quite similar to *T. repens*.

***Trifolium incarnatum* L.**

Native of Europe; established on waste land in Victoria, Oak Bay, and Saanich.

***Trifolium macræi* H. & A.**

Rare; reported by Macoun from Oak Bay and William Head; not collected recently. (*T. albopurpureum* T. & G.)

***Trifolium macrocephalum* (Pursh) Poiret Woolly Clover**

Meadows, hillsides, and sandy streambanks; generally distributed in Ten Mile Point, Sidney, Thetis Lake Park, and Goldstream.

Trifolium microdon **H. & A.** **Thimble Clover**

Meadows and slopes on sandy or rocky soils; locally common in Victoria, Oak Bay, Sidney, Thetis Lake Park, and the Highland district.

Trifolium oliganthum **Steud.** **Few-flowered Clover**

Grassland on dry, rocky soils; locally abundant in the Uplands Park, Mount Douglas, Sidney, and the Highland district.

*****Trifolium pratense*** **L.** **Red Clover**

Native of Europe; well established and very common throughout.

*****Trifolium procumbens*** **L.** **Hop Clover**

Native of Europe; now widely spread throughout the area in waste places and lawns; an aggressive species; in general, habit much like *T. agrarium.*

*****Trifolium repens*** **L.**

Native of Europe; established and very common throughout; most common in lawns and grassy meadows.

*****Trifolium subterraneum*** **L.** **Subterranean Clover**

Native of Europe; only record comes from Deep Cove, where it was collected by J. R. Shenstone in 1941.

Trifolium tridentatum **Lindl.** **Sand Clover**

Meadowland and grassy hillsides; common in suitable habitats throughout. (*T. obtusiflorum* Hook.)

Trifolium variegatum **Nutt.** **White-tip Clover**

Moist grounds; Oak Bay, Gonzales, Sidney, and Langford; common locally. (*T. dianthum* Greene)

Trifolium wormskjoldii **Lehm.**

Meadows, streambanks, and coastal areas; locally very abundant in Oak Bay, Esquimalt, and Sidney. (*T. fimbriatum* Lindl., *T. involucratum* Ortega)

*****Ulex europæus*** **L.** **Gorse**

Native of Europe; exposed, open places; noxious weed and a fire hazard when dry; becoming very abundant in many areas.

Vicia americana **Muhl.** **American Vetch**

Open woods and thickets; very common throughout; represented by var. *villosa* (Kell.) Harman and var. *truncata* (Nutt.) Brew. (*V. sylvatica* Nutt., *V. truncata* Nutt.)

*****Vicia cracca*** **L.** **Cow Vetch**

Native of Europe; roadsides and waste ground; common in Saanich and Sidney.

Vicia gigantea **Hook.** **Giant Vetch**

Thickets and forest clearings; locally abundant in Oak Bay, Saanich, Island View Beach, and Sidney.

*****Vicia hirsuta*** **(L.) S. F. Gray** **Hairy Vetch**

Native of Europe; a weed of cultivated and disturbed ground; occasional in ditches or along the road; very common throughout.

*****Vicia lathyroides*** **L.** **Spring Vetch**

Native of Europe; known only from Esquimalt, where it was collected by G. V. Copley in 1924 and Ten Mile Point by M. C. Melburn in 1966, 1967, and 1968.

*****Vicia sativa*** **L.** **Common Vetch**

Native of Europe; waste and cultivated ground; very common throughout; the plants with narrow leaves and smaller flowers are usually called *V. angustifolia.* (*V. angustifolia* L.)

***Vicia tetrasperma* (L.) Moench.** **Slender Vetch**

Occasionally in Royal Oak and Saanich.

****Vicia villosa* Roth.** **Annual Cow Vetch**

Native of Europe; along highways, roads, and in waste areas; locally frequent.

GERANIACEÆ: GERANIUM FAMILY

****Erodium cicutarium* (L.) L'Her.** **Filaree**

Native of Europe; open places; common throughout the area. (*Geranium cicutarium* L.)

****Erodium moschatum* (L.) L'Her.** **Musk Filaree**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Esquimalt district; specimen not examined.

***Geranium bicknellii* Britt.**

Open, wooded places; occasional; Victoria, Uplands, Saanich, and Goldstream. (*G. nemorale* Suksd., *G. nemorale* var. *bicknellii* Fern.)

***Geranium carolinianum* L.** **Carolina Geranium**

Sandy, open ground; limited to Victoria, Sidney, and Thetis Lake Park.

****Geranium columbianum* L.** **Long-stalked Geranium**

Native of Europe; rare; known only from the Patricia Bay Highway, where it was collected by M. C. Melburn in 1962.

****Geranium dissectum* L.** **Cut-leaved Geranium**

Native of Europe; moist ground in waste places; sporadic throughout.

****Geranium molle* L.** **Dove's-foot Geranium**

Native of Europe; a well-established weed in waste places.

****Geranium pusillum* Burm.** **Small-flowered Geranium**

Native of Europe; occasional weed throughout.

****Geranium robertianum* L.** **Herb Robert**

Native of Europe; sporadic in Victoria and West Saanich.

OXALIDACEÆ: WOOD-SORRELL FAMILY

****Oxalis corniculata* L.**

Native of Europe; waste places; occasional weed throughout.

LINACEÆ: FLAX FAMILY

***Linum perenne* L.** **Western Blue Flax**

Open, grassy places, Oak Bay and Sidney; not collected recently; represented by var. *lewisii* (Pursh) East. & Wright; Eurasian plant var. *perenne* was reported as a garden escapee on the peninsula. (*L. lewisii* Pursh)

EUPHORBIACEÆ: SPURGE FAMILY

****Euphorbia cyparissias* L.** **Cypress Spurge**

Native of Eurasia; occasional garden weed.

****Euphorbia esula* L.**

Native of Eurasia; a bad weed established locally.

****Euphorbia exigua* L.** **Dwarf Spurge**

Native of Europe; a weed of arable land; Victoria; not collected recently.

***Euphorbia helioscopia* L.**

Native of Eurasia; rare; a weedy annual of cultivated areas.

***Euphorbia lathyrus* L.** **Caper Spurge**

Native of Eurasia; occasional escapee; in the past planted as a mole repelient.

***Euphorbia marginata* Pursh** **Snow on the Mountains**

Occasional escapee from cultivation.

***Euphorbia peplus* L.** **Petty Spurge**

Native of Europe; a common weed throughout.

***Euprorbia serpyllifolia* Pers.** **Thyme-leaved Spurge**

Dry ground; sporadic throughout. (*E. albicaulis* Rydb.)

CALLITRICHACEÆ: WATER STARWORT FAMILY

***Callitriche heterophylla* Pursh** **Water Starwort**

In ponds and pools; Langford, Goldstream, and the Highland districts; represented by var. *bolanderi* (Hegelm.) Fassett. (*C. bolanderi* Hegelm.)

EMPETRACEÆ: CROWBERRY FAMILY

***Empetrum nigrum* L.** **Crowberry**

Rare; only known record came from Waugh Creek, Goldstream area, where it was collected by C. F. Newcombe in 1924; not collected since.

LIMNANTHACEÆ: FALSE MERMAID FAMILY

***Limnanthes douglasii* R. Br.** **Douglas' Meadow-foam**

Known only from Uplands Park, where it was collected by M. C. Melburn in 1963; the only other known record of this rare plant comes from Cowichan Lake, V.I., where it was collected by G. C. Boyd in 1940.

***Limnanthes macounii* Trel.** **Meadow-foam**

Restricted to Victoria, Oak Bay, and Trial Island, and not known from any other locality in British Columbia; first collected by J. R. Anderson in 1900; recently collected in Uplands Park by M. C. Melburn in 1961–68; according to Melburn, at the present time its distribution is limited to the Uplands Park and is increasing in the area.

ANACARDIACEÆ: CASHEW FAMILY

***Rhus diversiloba* T. & G.** **Poison Oak**

Dry woods and exposed rocky places. A number of records came from Saanich Arm, where it was collected by J. R. Anderson in 1896–1917; recently reported from Prospect Lake and the Highland area. This is the common *poison oak* and many persons are allergic and break out in a rash from contact with it. (*R. taxicodendron* ssp. *diversiloba* Engl.)

The closely related species *Rhus radicans* (poison ivy) is very well known from the dry Interior and does not occur on the peninsula.

CELASTRACEÆ: STAFF-TREE FAMILY

***Pachystima myrsinites* (Pursh) Raf.** **False Boxwood**

Open woods and thickets; common throughout.

ACERACEÆ: MAPLE FAMILY

***Acer circinatum* Pursh** **Vine Maple**

Planted; the only recorded natural occurrence on Vancouver Island came from Robertson River, Cowichan Lake district.

***Acer glabrum* Torr. var. *douglasii* (Hook.) Dipp. Douglas Maple**

Moist woods, rocky slopes, shores; occasional throughout in suitable habitats.

***Acer macrophyllum* Pursh Broadleaf Maple**

On edges of coniferous forest, damp woods, shoreline slopes; common throughout.

A number of *Acer* spp. are planted in peninsula gardens, which are not included in this list.

BALSAMINACEÆ: TOUCH-ME-NOT OR BALSAM FAMILY

****Impatiens glandulifera* Royle Jewelweed or Balsam**

Native of Asia; moist, shady places; cultivated as an ornamental and now well established along the beaches of Cordova Bay.

RHAMNACEÆ: BUCKTHORN FAMILY

***Rhamnus purshiana* DC. Cascara**

Woods, widely distributed throughout.

MALVACEÆ: MALLOW FAMILY

****Malva moschata* L. Musk Mallow**

Native of Europe; sparingly established in waste ground and along roads throughout.

****Malva neglecta* Wallr. Dwarf Mallow**

Native of Europe; waste places; known only from Victoria and Swan Lake area. (*M. rotundifolia* of American authors but not of L.)

****Malva parviflora* L. Cheese-weed**

Native of Europe; occasional in waste places and roadsides; Victoria and Oak Bay.

****Malva sylvestris* L.**

Native of Europe; sporadic weed in the Victoria area.

***Sidalcea hendersonii* Wats. Henderson's Sidalcea**

Wet, grassy places; abundant in the past in Oak Bay and Sidney; occasional in areas adjacent to tideland.

HYPERICACEÆ: ST. JOHN'S WORT FAMILY

***Hypericum anagalloides* C. & S. Bog St. John's Wort**

Bogs, wet ground, and stream margins; occasional; Victoria, Rithet's Bog, Beaver Lake, and Goldstream.

***Hypericum formosum* H. B. K. Western St. John's Wort**

Moist ground; not very common; Uplands, Prospect Lake, and Royal Oak; represented by var. *scouleri* (Hook.) Coult. (*H. scouleri* Hook.)

****Hypericum perforatum* L. Common St. John's Wort**

Native of Europe; cultivated land and waste places; a weedy plant difficult to eradicate and poisonous to livestock; common throughout.

VIOLACEÆ: VIOLET FAMILY

***Viola adunca* Sm. s. lat. Western Violet**

From dry to moist, open ground, wooded areas; common throughout; a variable plant with a number of taxa described. (*V. canina* var. *adunca* Wats.)

****Viola arvensis* Murr. Field Pansy**

Native to Europe; cultivated and often an escapee.

***Viola canadensis* L.**

Moist woodland; rare; collected at Goldstream by J. R. Anderson in 1912; represented by var. *rugulosa* (Greene) C. L. Hitchc. (*V. rydbergii* Greene)

***Viola glabella* Nutt.** **Yellow Woodland Violet**

Moist woods and along streams; very common throughout.

***Viola howellii* Gray** **Howell's Violet**

Open, wooded areas; rare; restricted to Thetis Lake Park only, where it was collected by M. C. Melburn in 1965, 1966, and 1967.

***Viola langsdorfii* Fisch.**

Moist places; rare; known only from Big Saanich Mountain, where it was collected by C. F. Newcombe in 1918, and the Highland district. (*V. simulata* M. S. Baker)

***Viola macloskeyi* Lloyd** **Small White Violet**

Boggy or wet ground; sporadic throughout.

***Viola nephrophylla* Greene** **Kidney-leaved Violet**

Moist, grassy places; very rare; collected by M. C. Melburn at Mount Douglas Park in 1958. (*V. cognata* Greene)

***Viola nuttallii* Pursh** **Nuttall's Violet**

Grassy slopes and open, wooded areas; occasionally abundant, but decreasing in its distribution.

***Viola palustris* L.** **Marsh Violet**

Bogs and swampy meadows; common throughout in suitable habitat.

***Viola sempervirens* Greene**

Moist, shady woods; sporadic throughout. (*V. sarmentosa* Dougl.)

***Viola septentrionalis* Greene**

Moist, open woods; collected by J. R. Anderson at Thetis Lake in 1904 and by W. B. Anderson at Prospect Lake in 1921.

***_Viola tricolor_ L.** **Wild Pansy**

Native of Europe; occasional in cultivated fields; similar to *V. arvensis,* but larger.

CACTACEÆ: CACTUS FAMILY

***Opuntia fragilis* (Nutt.) Haw.** **Prickly-pear Cactus**

Open, dry ground; first recorded from Gordon Head, where it was collected by Phipps in 1898; occasional in Gordon Head and the Beacon Hill area. (*Cactus fragilis* Nutt.)

***Opuntia polyacantha* Haw.** **Many-spined Prickly-pear**

Reported from Cordova Bay by M. C. Melburn in 1953; specimen not examined.

THYMELÆCEÆ: DAPHNE FAMILY

***_Daphne laureola_ L.** **Spurge Laurel**

Native of Europe; escapee from cultivation and becoming quite common in wooded and shady places throughout.

ELÆAGNACEÆ: OLEASTER FAMILY

***_Elæagnus multiflora_ Thunb.**

Native of Asia; escaped from cultivation and established in John Dean Park.

***Shepherdia canadensis* (L.) Nutt.** **Soap or Buffalo Berry**

Open, wooded areas; occasional throughout; decreasing considerably; first collected in Victoria by J. R. Anderson in 1896. (*Elæagnus canadensis* A. Nels.)

ONAGRACEÆ: EVENING PRIMROSE FAMILY

Boisduvalia densiflora **(Lindl.) Wats.** **Densely-flowered Boisduvalia**

Open meadows; sporadic; Royal Oak, Saanichton, Sidney, Thetis Lake Park, and Goldstream. (*B. douglasii* Spach, *Oenothera densiflora* Lindl.)

Boisduvalia stricta **(Gray) Greene** **Stiff Boisduvalia**

Known only from Thetis Lake Park, where it was collected by M. C. Melburn in 1959–67; most likely previously overlooked. (*Gayophytum strictum* Gray, *B. diffusa* Greene)

Circæa alpina **L.** **Western Enchanter's Nightshade**

Cool, damp woods; occasional throughout in suitable habitat; represented by var. *pacifica* (Asch. & Mag.) M. E. Jones. (*C. pacifica* Asch. & Mag.)

Clarkia amœna **(Lehm.) Nels.** **Clarkia**

Dry, open ground; occasional throughout; abundant at Mount Douglas, Observatory Hill, West Saanich, and Thetis Lake Park; represented by var. *caurina* (Abrams) C. L. Hitchc. (*Godetia caurina* Abrams, *G. amœna* G. Don.)

Epilobium angustifolium **L.** **Fire-weed or Willow Herb**

Open areas, thickets, along roads and waste places; very common throughout; weedy species.

Epilobium glandulosum **Lehm.**

Rare; Saanich; published in the Provincial Museum Report for 1942; specimen not examined.

Epilobium minutum **Lindl.** **Small-flowered Willow-herb**

Dry, open ground; occasional; in Victoria and Thetis Lake Park area. (*E. minutum* var. *foliosum* T. & G.)

Epilobium paniculatum **Nutt.**

Dry, open ground; occasional throughout. (*E. jucundum* Gray)

Epilobium watsonii **Barbey s. lat.** **Common Western Willow-herb**

Very common throughout. A polymorphic species with many segregates described and with complicated nomenclature. We consider that the peninsula material belongs to *E. watsonii* in the broad sense, fully realizing that geographical segregates may exist in this polymorphic complex. (*E. adenocaulon* Haussk.)

Ludvigia palustris **(L.) Ell.** **Water Purslane**

Known only from the shore of Langford Lake; represented by var. *americana* (DC) Fern. & Griscom; collected by B. W. Davis & N. Chapman in 1965.

Œnothera biennis **L.** **Common Evening Primrose**

Open, sandy ground; sporadic; Victoria. (*O. strigosa* Mack & Bush, *O. rydbergii* House)

Œnothera contorta **Dougl.** **Slender Evening Primrose**

Rare; known only from Saanichton Bay, where it was collected along the beach by G. V. Copley in 1926 and M. C. Melburn in 1959. (*Sphærostigma contortum* Walp.)

HALORAGIDACEÆ: WATER MILFOIL FAMILY

Myriophyllum hippuroides **Nutt.** **Western Water Milfoil**

Rare; listed by J. W. Eastham in *Supplement to Flora of British Columbia;* Beaver Lake; specimen not examined.

****Myriophyllum spicatum*** **L.** **Whorled Water Milfoil**

Native of Europe; quiet streams and ponds; known only from the Highland district. (*M. verticillatum* L.)

HIPPURIDACEÆ: MARE'S-TAIL FAMILY

***Hippuris tetraphylla* L.**

Rare; known only from Saanich, where it was collected by C. F. Newcombe in 1923 at the base of Cedar Hill, not collected since. *H. tetraphylla* is a northern species.

****Hippuris vulgaris* L.**

Native of Eurasia; ponds and shallow water of lakes, early collections came mainly from Elk and Beaver Lakes; occasional throughout in suitable habitats.

ARALIACEÆ: GINSENG FAMILY

****Hedera helix* L.** **English Ivy**

Native of Europe; escaped from cultivation; common throughout.

***Oplopanax horridum* (J. E. Smith) Miq.** **Devil's-Club**

Damp, alluvial flats; rare; known only from the Goldstream area, where it was collected by A. F. Szczawinski in 1955. (*Fatia horrida* B. & H.)

UMBELLIFERÆ: PARSLEY FAMILY

***Angelica genuflexa* Nutt.** **Kneeling Angelica**

Moist places; sporadic; Cordova Bay, Gordon Head, Elk Lake, and Goldstream.

****Carum carvi* L.** **Caraway**

Native of Europe; roadsides and meadows; sporadic throughout.

***Cicuta douglasii* (DC.) C. & R.** **Western Water Hemlock**

Edges of streams and ditches; Beaver and Swan Lakes, Rithet's Bog, and the Highland district; abundant locally; this plant is highly poisonous to man and live stock. (*C. occidentalis* Greene)

***Conioselinum pacificum* (Wats.) C. & R.**

Sandy beaches and bluffs; locally abundant in suitable habitats.

****Conium maculatum* L.** **Poison Hemlock**

Native of Eurasia; roadsides, ditches, and disturbed places; poisonous; established as a weed in many areas throughout; the hemlock of classical antiquity.

****Daucus carota* L.** **Queen Anne's Lace**

Native of Eurasia; open, grassy places; very common throughout.

***Daucus pusillus* Michx.**

Dry, open places; occasional; Saanich and Thetis Lake Park.

****Fœniculum vulgare* Mill.** **Fennel**

Native of Europe; roadsides and waste places; widely introduced throughout. (*Anethum fœniculum* L.)

***Glehnia littoralis* Schmidt** **Beach Silver-top**

Sandy beaches; Saanichton Bay, Saanichton Spit, and Island View Beach. (*G. littoralis* ssp. *leiocarpa* (Math.) Hult., *G. leiocarpa* Math., *G. littoralis* sensu Henry)

***Heracleum lanatum* Michx.** **Cow Parnsnip**

Moist, low ground; common throughout. (*H. douglasii* DC.)

***Lomatium dissectum* (Nutt.) Math. & Const. s. lat.** **Lace-leaved Leptotænia**

Dry, open ground, rocky slopes, and talus; common in suitable habitats throughout. We treat the peninsula material in the broad sense, realizing that geographical segregates do exist in this polymorphic complex.

Cow parsnip (*Heracleum lanatum*), common in moist, low areas.

***Lomatium macrocarpum* (Nutt.) Coult. & Rose**

Dry, rocky areas; rare; known only from Mount Finlayson, where it was collected by C. F. Newcombe in 1916; record confirmed by C. V. Piper; not collected since.

***Lomatium nudicaule* (Pursh) C. & R. Indian Consumption Plant**

Dry, open places and rocky outcrops; common on suitable habitats throughout. (*L. platyphyllum* C. & R.)

***Lomatium utriculatum* (Nutt.) C. & R. Spring Gold**

Open slopes and rocky outcrops; common throughout in suitable habitat; the commonest *Lomatium* in the area.

***Œnanthe sarmentosa* Presl. Water Parsley**

Low, wet places along streams and around sloughs; common throughout.

***Osmorhiza chilensis* H. & A. Western Sweet Cicely**

Woodlands; common throughout. (*O. brevipes* Suksd., *O. nuda* Torr., *O. divaricata* Nutt.)

***Osmorhiza purpurea* (C. & R.) Suksh. Purplish Sweet Cicely**

Wet, wooded areas; sporadic throughout; very similar to *O. chilensis.*

****Pastinaca sativa* L. Parsnip**

Native of Europe; occasional; common cultivated parsnip, sometimes escaped and established along roadsides, ditches, and disturbed sites.

***Perideridia gairdneri* (H. & A.) Math. Western False Caraway**

Open ground; woodland and wet meadows; sporadic throughout. (*Carum gairdneri* (H. & A.) Gray)

***Perideridia oregana* (Wats.) Math.**

Listed in Henry's *Flora* as occuring in Victoria; specimen not examined. (*Carum oreganum* Wats.)

***Sanicula arctopoides* H. & A. Beach Snake-root**

Beaches and coastal bluffs; sporadic; Beacon Hill, Clover Point, and Foul Bay.

***Sanicula bipinnatifida* Dougl. Purple Snake-root**

Open to partly wooded areas; locally very common throughout.

***Sanicula crassicaulis* Poepp. Western Snake-root**

Wet to dry wooded places; common throughout. (*S. menziesii* H. & A.)

***Sanicula graveolens* Poepp. ex DC. Sierra Snake-root**

Open and partly wooded areas; occasional in Lost and Prospect Lakes, Mount Douglas, and the Goldstream area. (*S. septentrionalis* Greene)

****Scandix pecten-veneris* L. Venus'-comb**

Native to Eurasia; waste places; sparingly introduced on the peninsula.

***Sium suave* Walt. Hemlock Water Parsnip**

Swampy places and shallow water; common throughout in suitable habitat. (*S. cicutæfolium* Schrank)

CORNACEÆ: DOGWOOD FAMILY

***Cornus canadensis* L. Bunchberry**

Moist woods; sporadic and becoming rare; Royal Oak; Sidney, Goldstream, and Langford. (*C. unalaschkensis* Ledeb.)

***Cornus nuttallii* And. Western Flowering Dogwood**

Wooded to open places; common throughout the area; the floral emblem of British Columbia and protected by British Columbia legislation in 1936.

Cornus stolonifera Michx. s. lat. **Red Osier Dogwood**

Moist places along streams and boggy areas; common throughout in suitable habitats; a polymorphic species with a number of subspecific taxa described. (*C. occidentalis* (T. & G.) Cov., *C. serica* L.)

ERICACEÆ: HEATHER FAMILY

Allotropa virgata T. & G. **Candystick**

Humus soil in coniferous forest; rare; first collected by J. R. Anderson in the Highland district in 1898; recently collected in Goldstream by M. C. Melburn in 1966 and 1967.

Arbutus menziesii Pursh **Madrona**

Dry, rocky sites along the Coast; often associated with Douglas fir; common throughout in suitable habitats.

Arctostaphylos columbiana Piper **Manzanita**

Dry, exposed rocky outcrops; restricted to the Langford and Highland districts.

Arctostaphylos uva-ursi (L.) Spreng. **Kinnikinnick**

Sandy or rocky soils in exposed places; common throughout; often hybridizes with *Arctostaphylos columbiana.* (*A. media* Greene, *Arbutus uva-ursi* L.)

Chimaphila menziesii (R. Br.) Spreng. **Little Prince's Pine**

Moist woods; rare; collected only in Saanich by G. A. Hardy in 1943. (*Pyrola menziesii* R. Br.)

Chimaphila umbellata (L.) Bart. **Western Prince's Pine**

Open or dense coniferous forest; occasional throughout. (*Pyrola umbellata* (L.) Bart.)

Gaultheria shallon Pursh **Salal**

Mostly coniferous forests, thickets, rocky cliffs, ravines, and exposed shore; very common throughout.

Kalmia polifolia Wang. **Swamp Laurel**

Peat bogs, peaty soil, and swampy ground; abundant sporadically in suitable habitats. (*K. polifolia* var. *microphylla* (Hook.) Rehd.)

Ledum grœnlandicum Oeder **Labrador Tea**

Swamps, bogs, and moist coniferous woods; abundant in the past in suitable habitats; now restricted to Rithet's Bog. (*L. palustre* ssp. *grœnlandicum* (Oeder) Hult.)

Monotropa uniflora L. **Indian Pipe**

Shady, mature, coniferous forest in the vicinity of rotting Douglas fir; sporadically abundant in suitable habitats.

Oxycoccus quadripetalus Gilib. **Bog Cranberry**

Sphagnum bogs, wet muskegy places; restricted to Rithet's Bog; specific name *quadripetalus* is not constantly used in literature and its validity must await further clarification. (*Vaccinium oxycoccus* L. (in part), *Oxycoccus palustris* Pers., *Oxycoccus oxycoccus* MacM. (in part).)

Pterospora andromedea Nutt. **Pinedrops**

Dry, open coniferous forest; rare; known only from Sidney, Langford, Thetis Lake Park, and the Highland district.

Pyrola aphylla Smith **Leafless Pyrola**

Moist, shady, coniferous forest; rare; Royal Oak, Goldstream, and the Highland district; *P. aphylla* is most likely a leafless form of species like *P. asarifolia, P. virens, P. pecta,* and others.

Pyrola asarifolia Michx. **Large Wintergreen**

Moist, open, coniferous forest; most common species in the area. (*P. bracteata* Hook., *P. rotundifolia* var. *asarifolia* Hook., *P. bracteata* var. *hillii* J. K. Henry)

***Pyrola dentata* Smith** **Nootka Wintergreen**

Dry, coniferous forest; very rare; known only from the Esquimalt area, where it was collected by W. A. Newcombe in 1931. (*P. pallida* Greene, *P. picta* ssp. *dentata* Piper)

***Pyrola picta* Smith** **White-veined Pyrola**

The only given locality for this species is Waugh Creek in the Goldstream area, C. F. Newcombe, 1919. As part of Waugh Creek is out of the area of study, validity of this record is not positively established.

***Pyrola secunda* L.** **One-sided Wintergreen**

Moist, coniferous forests; rare; known from Thetis Lake Park where it was collected by M. C. Melburn in 1959.

***Pyrola virens* Schweigg.** **Greenish-flowered Wintergreen**

The only given locality for this species is Waugh Creek in the Goldstream area, where it was collected by C. F. Newcombe in 1919. As part of Waugh Creek is out of the area of study, validity of this record is not certain.

***Vaccinium cæspitosum* Michx.** **Dwarf Blueberry**

Wet meadows and swampy areas; rare; in the past collected in Oak Bay by J. R. Anderson in 1896, Beacon Hill Park by J. Macoun in 1913, and Royal Oak by C. F. Newcombe in 1924, not collected since 1948; most likely an extinct species in the area.

***Vaccinium ovatum* Pursh** **Evergreen Huckleberry**

Soils rich in humus in coniferous forests along the Coast; rare; occurring only in Beaver Lake, Thetis Lake Park, and Goldstream.

***Vaccinium parvifolium* Smith** **Red Huckleberry**

On raw humus and decaying wood in coniferous forests along the Coast; common throughout.

PRIMULACEÆ: PRIMROSE FAMILY

****Anagallis arvensis* L.** **Scarlet Pimpernel**

Native of Europe; cultivated fields; common throughout.

****Centunculus minimus* L.** **False Pimpernel**

Native of Europe; moist ground, around pools; Ten Mile Point and Sidney; not collected recently.

***Dodecatheon hendersonii* Gray** **Broad-leaved Shooting Star**

Open woods and grassy slopes; common throughout. (*D. media* var. *hendersonii* Brandg., *D. latifolium* Piper)

***Dodecatheon pauciflorum* (Dur.) Greene s. lat.** **Few-flowered Shooting Star**

Wet, grassy places and swampy ground; sporadically abundant. Variable species subdivided into many taxa; for the time being we consider the Saanich Peninsula material as belonging to *D. pauciflorum* without going into segments of this complex. (*D. radicatum* Greene, *D. integrifolium* sensu Hook., *D. frigidum* sensu Carter & Newcombe, *D. macrocarpum* var. *alaskanum* Hult., *D. cusickii* Greene)

***Glaux maritima* L.** **Sea Milkwort**

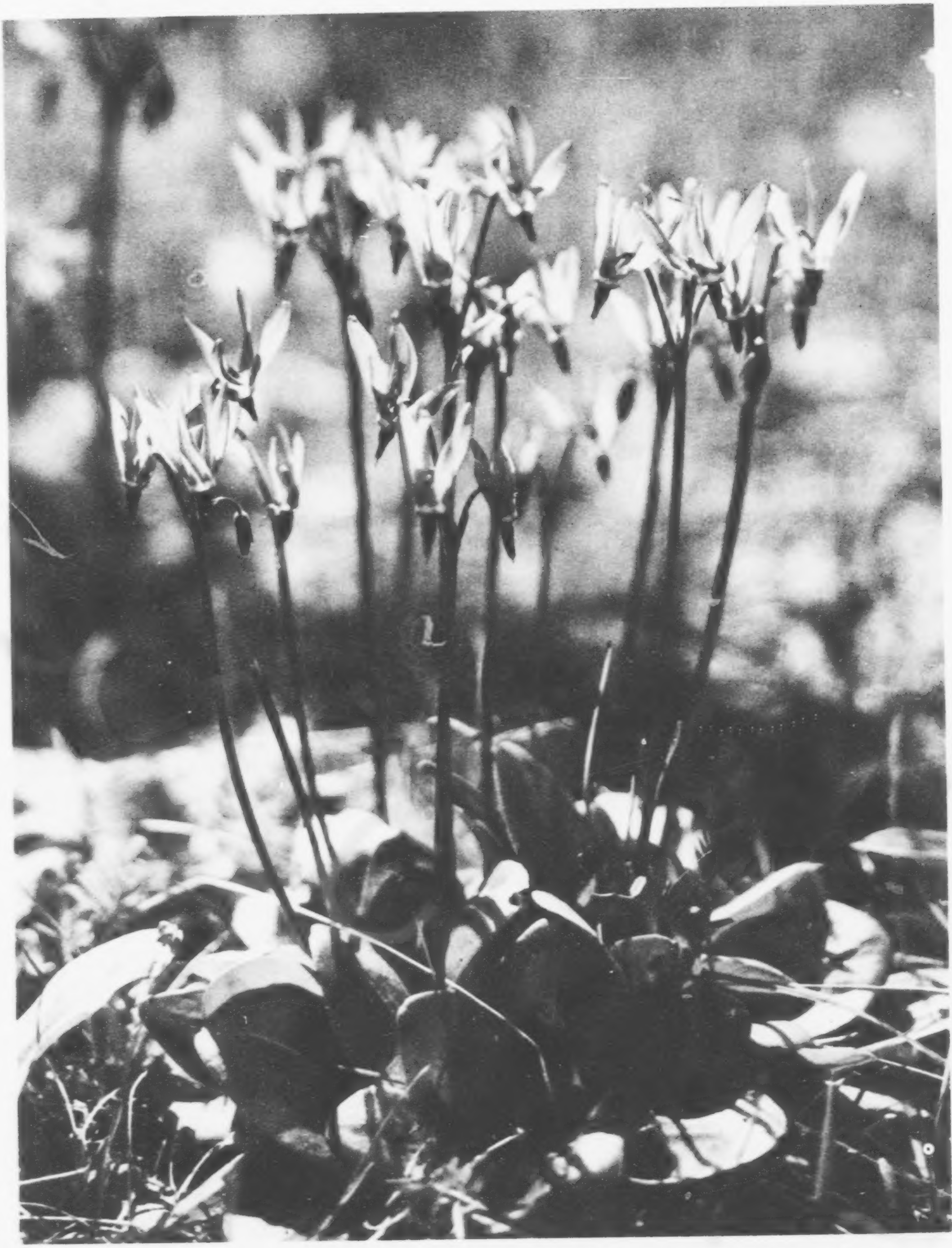
Salt marshes and sandy beaches along the Coast; sporadic throughout; ssp. *obtusifolia* (Fern.) Boivin is often recognized on the basis of habitat and reduced leaves.

****Lysimachia nummularia* L.** **Money-wort**

Native of Europe; wet places along roadsides; rare; known from Victoria where it was collected by M. C. Melburn in 1967.

***Lysimachia thyrsiflora* L.** **Tufted Loosestrife**

Swampy ground; Beaver, Elk, Prior, and Thetis Lakes; occasional.



Broad-leaved shooting star (*Dodecatheon hendersonii*), inhabits open woods and grassy slopes.

***Lysimachia vulgaris L.**

Native of Europe; escapee from cultivation and sparingly introduced throughout.

Trientalis arctica Fisch. Northern Star-flower

Bogs and swamps along the Coast; known from Rithet's Bog and Beaver Lake; often considered as a variety or subspecies of the circumpolar *T. europea* L. (*T. europea* ssp. *arctica* Hult.)

Trientalis latifolia Hook. Broad-leaved Star-flower

Wooded and open areas; common throughout. (*T. europea* var. *latifolia* Torr.)

PLUMBAGINACEÆ: PLUMBAGO FAMILY

Armeria maritima (Mill.) Willd. Thrift

Beaches and coastal bluffs; sporadic. (*Statice armeria* L., *Statice maritima* Mill.)

OLEACEÆ: OLIVE OR ASH FAMILY

Fraxinus latifolia Benth. Oregon Ash

Rare; known only from Victoria, growing on rocky outcrops; collected in Victoria by I. McTaggart Cowan, 1935; planted as an ornamental and an escapee from cultivation. (*F. oregana* Nutt.)

***Ligustrum vulgare L. Common Privet**

Native of Europe; commonly used for hedges; occasionally naturalized throughout.

GENTIANACEÆ: GENTIAN FAMILY

Centaurium exaltatum (Griseb.) Wight ex Piper Western Centaury

Moist soil; occasional in the Uplands area.

***Centaurium umbellatum Gilib. Centaury**

Native of Europe; on moist, waste land and grassy, exposed places; rare. (*Gentiana centaurium* L.)

MENYANTHACEÆ: BUCK BEAN FAMILY

Menyanthes trifoliata L. Buckbean

Bogs and lakes; occasional; Beaver and Swan Lakes, Goldstream, and the Highland district; decreasing in its distribution due to the disappearance of suitable habitats.

APOCYNACEÆ: DOGBANE FAMILY

Apocynum androsæmifolium L. Spreading Dogbane

Dry, open ground; most common in Prospect Lake, Thetis Lake Park, and the Highland district; occasional in Royal Oak; represented by var. *androsæmifolium* and var. *pumilum* Gray.

Apocynum cannabinum L. Indian Hemp

Dry, sandy places; rare; known only from Victoria, where it was collected by W. A. Newcombe in 1915.

***Vinca major L. Large Periwinkle**

Native of Europe; roadsides, neglected lots, and gardens; common; a garden escapee in the Victoria and Saanich areas.

***Vinca minor L. Lesser Periwinkle**

Native of Eurasia; neglected lots and roadsides; a garden escapee; occasional throughout.

CONVOLVULACEÆ: MORNING-GLORY FAMILY

***_Convolvulus arvensis_ L. Small Bindweed**

Native of Europe; fields and disturbed ground; very common; considered to be one of the worst weeds in the area.

***Convolvulus sepium* L. Great Bindweed**

Moist soils, along roads, ditches, and waste places; common throughout and locally abundant. (*C. repens* L.)

***Convolvulus soldanella* L. Beach Morning-glory**

Coastal beaches and sand dunes; sporadic in suitable habitats throughout. (*Calystegia soldanella* R. Br.)

CUSCUTACEÆ: DODDER FAMILY

***Cuscuta pentagona* Engelm.**

On a variety of hosts; restricted to Goldstream and not collected outside this area.

***Cuscuta salina* Engelm. Salt-marsh Dodder**

Mostly on *Salicornia* in salt marshes along the Coast; locally abundant; represented by var. *major Yuncker*. (*C. squamigera* Piper)

POLEMONIACEÆ: PHLOX FAMILY

***Collomia grandiflora* Dougl. Large-flowered Collomia**

Dry, open ground; occasional at Victoria, Saanich, and the Sidney district. (*Gilia grandiflora* Gray)

***Collomia heterophylla* Hook. Varied-leaved Collomia**

Open ground, roads, and thickets; Saanich, Goldstream, and the Highland district. (*Gilia heterophylla* Dougl.)

***Collomia linearis* Nutt. Narrow-leaved Collomia**

Open, dry to moderately moist areas; rare and known only from Gordon Head and Goldstream. (*Gilia linearis* Gray)

***Gilia capitata* Sims Blue Field Gilia**

Dry slopes and open places; often on cultivated ground; known only from the Outer Wharf and Sidney; not collected recently.

***Linanthus bicolor* (Nutt.) Greene**

Dry, open places; occasional; Victoria, Thetis Lake Park, and Goldstream; represented by var. *minimum* (Mason) Cronq. (*L. tenella* Benth, *Gilia bicolor* Piper)

***Microsteris gracilis* (Hook.) Greene Annual Microsteris**

Open, grassy places and hillsides; Victoria, Cedar Hill, Saanich, and Thetis Lake Park; locally abundant. (*Phlox gracilis* Greene, *Gilia gracilis* Hook., *Collomia gracilis* Dougl.)

***Navarretia intertexta* (Benth.) Hook. Needle-leaved Navarretia**

Moist, open ground, fields; sporadic and rather rare; most abundant at Thetis Lake Park. (*Gilia intertexta* Steud.)

***Navarretia squarrosa* (Esch.) H. & A. Skunk Weed**

Open ground, fields, and roadsides throughout; particularly common in North Saanich and Sidney. (*Gilia squarrosa* H. & A.)

***Polemonium micranthum* Benth.**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined.

HYDROPHYLLACEÆ: WATERLEAF FAMILY

***Hydrophyllum tenuipes* Heller** **Slender-stemmed Waterleaf**

Shady, moist woods; known only from the Goldstream area.

***Nemophila menziesii* H. & A.**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined; a southern species and most likely a garden escapee.

***Nemophila parviflora* Dougl.** **Small-flowered Nemophila**

Wet, open, or semiwooded places; common in Goldstream, Langford, Thetis Lake Park, and North Saanich; represented by var. *parviflora*. (*N. pustulata* Eastw., *N. austinæ* Eastw.)

***Nemophila pedunculata* Dougl.** **Spreading Nemophila**

Moist, open meadows; occasional; Thetis Lake Park, 10 Mile Point, and Mount Douglas.

***Phacelia linearis* (Pursh) Holz.** **Narrow-leaved Phacelia**

Dry, open places; known from Mount Douglas; first recorded from the Outer Wharf, Victoria by J. Macoun in 1913.

***Romanzoffia sitchensis* Bong.** **Sitka Romanzoffia**

Recorded from the Victoria area; it is possible that the plant collected was an escapee from cultivation, as this species is grown in many gardens.

***Romanzoffia tracyi* Jeps.** **Sea-cliff Romanzoffia**

Wet sea-cliffs; occasional; Dallas Road, Victoria; not collected recently.

BORAGINACEÆ: BORAGE FAMILY

***Amsinckia intermedia* Fisch. & May.** **Common Amsinckia or Fiddleneck**

Dry, open ground; a weed of roadsides and waste places; Oak Bay, Victoria, and Sidney.

***Amsinckia lycopsoides* Lehm.**

Rare; reported from Sidney by J. Macoun in 1913 and the Uplands by M. C. Melburn in 1953; a number of records for this species come from Sooke and Parksville on V.I.

***Amsinckia menziesii* (Lehm.) Nels. & Macbr.** **Menzies Amsinckia**

Dry, open places; rare; collected at Clover Point by M. C. Melburn in 1966.

***Amsinckia spectabilis* Fisch. & May** **Bugloss Amsinckia**

Open, flat, and disturbed soil; rare or overlooked; the only records came from the Sidney area, where it was collected by J. Macoun in 1913 and the Uplands district by M. C. Melburn in 1953 and 1964. Records of *A. menziesii* and *A. spectabilis* should be studied and verified as there are no clear distinguishing characteristics separating them. (*A. lycopsoides* sensu Carter & Newcombe, *A. lycopsoides* var. *bracteosa* A. Gray)

****Anchusa officinalis* L.** **Common Anchusa**

Native of Europe; along roadsides; occasionally found as a weed in North Saanich and Brentwood.

****Borago officinalis* L.** **Borage**

Native of Europe; occasionally cultivated and found as a weed in Saanich.

***Cryptantha torreyana* (Gray) Greene**

Dry, open places; rare; Royal Oak and Esquimalt. (*Krynitzkia torreyana* Gray)

****Echinum vulgare* L.** **Viper's Bugloss**

Native of Europe; occasional; established on disturbed sites.

***Hackelia diffusa* (Lehm.) Johnst.**

Rare; known only from West Saanich, where it was collected by M. C. Melburn in 1956. (*Lappula diffusa* Greene)

***Myosotis arvensis (L.) Hill Common Forget-me-not**

Native of Eurasia; roadsides and disturbed ground; established as a weed in the Saanich area; occasional in other areas.

***Myosotis discolor Pers. Yellow and Blue Forget-me-not**

Native of Europe; becoming weedy in some areas, North Saanich, Royal Oak, Sidney, and the Highland district. (*M. versicolor* Smith, *M. arvensis* var. *versicolor* Pers.)

***Myosotis laxa* Lehm. Smaller Forget-me-not**

Moist soils and shallow waters; one of our most common forget-me-nots; throughout in suitable habitats. (*M. palustris* var. *laxa* Gray)

***Myosotis micrantha* Pall.**

Open, dry, rocky places; known only from Thetis Lake Park and the Highland district, where it was collected by J. A. Calder in 1956.

***Myosotis scorpioides L. Water Forget-me-not**

Native of Europe; edges of ponds and wet, submerged places; known from the Central Saanich and Saanichton areas. (*M. palustris* Lam., *M. scorpioides* var. *palustris* L.)

***Plagiobothrys chorisianus* (Cham.) Jtn.**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined. A Californian species and very unlikely to occur here. (*Allocarya chorisiana* (Gham.) Greene)

***Plagiobothrys figuratus* (Piper) Johnst. Fragrant Plagiobothrys**

Open, moist lowlands; known mainly from Saanich, being most abundant near Lost Lake and Sidney. Often misidentified and confused with *Plagiobothrys scouleri* (H. & A.) Johnst. which is superficially similar. (*Allocarya figurata* Piper)

***Plagiobothrys scouleri* (H. & A.) Johnst. Scouler's Plagiobothrys**

Moist, open ground; the most common *Plagiobothrys* in the area; abundant in the Victoria and Oak Bay areas. (*Allocarya scouleri* Greene, *Myosotis scouleri* H. & A.)

***Plagiobothrys tenellus* (Nutt.) Gray Slender Plagiobothrys**

Dry, open places; known from Victoria West, Mount Douglas, and the Sidney areas. (*Myosotis tenella* Nutt.)

***Symphytum officinale L. Comfrey**

Native of Europe; escaped from cultivation and established along roadsides and in old orchards in the Royal Oak area.

VERBENACEÆ: VERBAIN FAMILY

***Verbena hastata* L. Blue Verbain**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands* as occurring in Victoria; specimen not examined.

LABIATÆ: MINT FAMILY

***Galecoma hederacea L. Ground Ivy**

Native of Eurasia; in disturbed soil; weedy and becoming aggressive in some areas.

***Galeopsis tetrahit L. Hemp Nettle**

Native of Eurasia; meadows and other moist places; rare; known from Royal Oak and Sidney.

***Lamium amplexicaule L. Henbit**

Native of Eurasia; frequent in fields and waste places.

***Lamium purpureum L. Red Dead Nettle**

Native of Europe; locally abundant in waste ground; weedy.

***Lycopus americanus* Muhl.** **Cut-leaf Water Horehound**

Wet ground and marshes; most abundant in Beaver and Elk Lakes.

***Lycopus uniflorus* Michx.** **Bugle-weed**

Streambanks and marshes throughout the area.

****Marrubium vulgare* L.** **White Horehound**

Native of Europe; a casual weed in dry, open ground.

****Melissa officinalis* L.** **Common Balm**

Introduced from Eurasia; sporadic; roadsides and waste places; Victoria.

****Mentha arvensis* L.** **Canada Mint**

Native of Europe; in wet ground; widely distributed throughout the area. (*M. canadensis* L., *M. arvensis* var. *canadensis* (L.) Kuntze, *M. canadensis* var. *glabrata* Benth.)

****Mentha citrata* Ehrh.**

Introduced and cultivated as a source of peppermint; established in the Sidney area, where it was collected by V. E. L. Goddard in 1929; not collected recently.

****Mentha* x *gentilis* L.**

Native of Europe; reported from Victoria by L. J. Clark in 1968. (*M. arvensis* x *spicata*)

****Mentha rotundifolia* (L.) Huds.** **Applemint**

Native of Europe; rare; Victoria. (*M. spicata* var. *rotundifolia* L.)

****Mentha spicata* L.** **Spearmint**

Native of Europe; banks of streams and moist places; introduced and occasionally found in the area.

****Nepeta cataria* L.** **Catnip**

Native of Eurasia; occasional in woods and waste ground.

****Prunella vulgaris* L.** **Heal-all**

Native of Europe; very common in lawns and waste places throughout the area.

***Satureja douglasii* (Benth.) Briq.** **Yerba Buena**

Dry, open woods throughout the area. (*Micromeria chamissonis* Greene, *M. douglasii* Benth)

***Scutellaria galericulata* L.** **Skullcap**

Wet meadows; restricted to Beaver, Elk, Lost, and Langford Lakes; circumboreal.

****Stachys arvensis* L.** **Field Woundwort**

Native of Europe; cultivated ground; naturalized; Oak Bay and Beacon Hill Park.

***Stachys cooleyæ* Heller**

Streambanks and moist land; sporadic throughout; this species has been commonly called *S. ciliata*. (*S. ciliata* sensu Henry)

***Stachys mexicana* Benth.** **Great Hedgenettle**

Swamps and moist woodland throughout the area; closely related to *S. cooleyæ*. (*S. ciliata* Dougl.)

****Thymus serpyllum* L.** **Creeping Thyme**

Native of Eurasia; collected by M. C. Melburn at John Dean Park in 1963.

SOLANACEÆ: NIGHTSHADE FAMILY

****Datura stramonium* L.** **Jimson Weed or Thorn-apple**

Introduced; occasional in waste places; narcotic and very poisonous.

***Nicandra physalodes* (L.) Pers.**

Native of Peru; waste ground near dwellings and old gardens; rare; known only from Victoria, where it was collected by M. C. Melburn in 1965.

***Salpichroa rhomboidea* (Gill. & Hook.) Miers. Lily-of the Valley Vine**

Native of South America; collected in Victoria by W. B. Anderson in 1916. (*Atropa rhomboidea* Gill. & Hook.)

***Solanum dulcamara* L. Bittersweet Nightshade**

Native of Eurasia; thickets, open woods, and ditches along the road; occasional throughout.

***Solanum nigrum* L. s. lat. Black Nightshade**

A weed along roadsides and disturbed sites; cosmopolitan. Variable species with a number of segregates; we consider the Saanich Peninsula material in the broad sense without going into the taxonomy of this complex. (*S. nodiflorum* Jacq.)

***Solanum rostratum* Dunal Beaked Nightshade**

Wet places in disturbed areas; native of the Great Plains; occasionally found in Victoria. (*Androcera rostrata* Rydb.)

***Solanum sarrachoides* Sendt.**

Native of South America; occasional weed along roadsides and disturbed areas; similar in habit to *S. nigrum.*

***Solanum triflorum* Nutt. Three-flowered Nightshade**

A sporadic weed in fields and disturbed sites throughout.

SCROPHULARIACEÆ: FIGWORT FAMILY

***Antirrhinum orontium* L. Snapdragon**

Native of Europe; reported from Victoria; specimen not examined. The garden snapdragon *A. majus* L. has been found quite frequently as an escapee in the Victoria and Oak Bay area.

***Castilleja angustifolia* (Nutt.) G. Don. Scarlet Paintbrush**

This species is often confused with other related taxa; most of our material was misidentified and requires revision and it is possible that this species does not occur in our area of study.

***Castilleja hispida* Benth. s. lat. Harsh Paintbrush**

Grassy slopes, forest openings, and rocky outcrops; sporadic in suitable habitats; a complex and variable species; most of our material was misidentified as *C. angustifolia.* We treat the Saanich Peninsula material in the broad sense without going into its taxonomy. (*C. angustifolia* var. *hispida* Fern., *C. remota* Greene)

***Castilleja levisecta* Greene. Golden Paintbrush**

Open grassland; Beacon Hill and Foul Bay; occasional along Dallas Road, Victoria, Lost Lake, and Sidney; decreasing.

***Castilleja miniata* Dougl. s. lat. Common Paintbrush**

Open sea bluffs and exposed grassy beaches; rare; a complex species closely related to *C. dixonii* Fern., which is considered by some as a part of the complex. (*C. pallida* var. *miniata* Gray)

***Collinsia grandiflora* Lindl. Large-flowered Collinsia**

Widely distributed on a variety of open, seasonally wet habitats. (*C. multiflora* Howell, *C. tenella* Piper)

***Collinsia parviflora* Lindl. Small-flowered Collinsia**

Widely distributed on a variety of open, seasonally wet habitats. There is a noticeable introgression with *C. grandiflora.* (*C. minima* Nutt., *C. grandiflora* var. *pusilla* Gray, *C. pusilla* Howell)

***_Digitalis purpurea_ L.** **Foxglove**

Native of Europe; well established along roadsides and waste places throughout.

Gratiola ebracteata Benth. **Bractless Hedge-hyssop**

Muddy shores, wet places; rare; Gonzales and Oak Bay.

Gratiola neglecta Torr. **Obscure Hedge-hyssop**

Rare; known from the Esquimalt district only.

Gratiola virginiana L.

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined; *C. virginiana* is typically an eastern species and is sometimes confused with *G. neglecta.*

***_Kickxia elatine_ (L.) Dumort** **Fluellen**

Native of Europe; locally established in Saanichton, Lost Lake, and Thetis Lake Park. (*Linaria elatine* (L.) Mill.)

Linaria canadensis (L.) Dumont **Blue Toad-flax**

Sandy soil; limited to the Esquimalt district; represented by var. *texana* (Scheele) Pennell.

***_Linaria dalmatica_ (L.) Mill.** **Toad-flax**

Native of Europe; roadsides and disturbed places; most common in Prospect Lake and Saanichton; spreading to other areas.

***_Linaria purpurea_ (L.) Mill.** **Purple Toad-flax**

Native of Europe; an occasional escapee. (*Antirrhinum purpurea* L.)

***_Linaria vulgaris_ Hill** **Butter-and-eggs**

Native of Europe; roadsides and waste places; naturalized and widely distributed throughout. (*Antirrhinum linaria* L.)

Mimulus alsinoides Dougl. **Chickweed Monkey-flower**

Moist, open places, banks, and cliffs; widely distributed throughout.

Mimulus guttatus DC. s. lat. **Common Monkey-flower**

Wet places; commonly distributed throughout; a variable species with a number of infraspecific not well-defined taxa described. (*M. langsdorfii* Donn., *M. nasutus* sensu Henry)

Mimulus moschatus Dougl. s. lat. **Musk Monkey-flower**

Wet ground; generally distributed throughout; a polymorphic species with several segregates recognized.

Mimulus tilingii Reg. **Tiling's Monkey-flower**

Wet banks of streams; sporadic throughout; often confused with *M. guttatus;* represented by var. *cæspitosus* (Greene) Grant. (*M. langsdorfii* var. *tilingii* (Greene)

Orthocarpus attenuatus Gray **Narrow-leaved Orthocarpus**

Open, grassy places; occasional at Oak Bay, Ten Mile Point, Mount Tolmie, Mount Douglas, Thetis Lake Park, and Mount Finlayson.

Orthocarpus bracteosus Benth. **Bracted Orthocarpus**

Moist, open meadows; sporadic in Victoria, Oak Bay, Elk Lake, and Sidney.

Orthocarpus castillejoides Benth. **Paintbrush Orthocarpus**

Salty marshes and grassy places along the Coast; sporadic at Oak Bay, Ten Mile Point, and Sidney.

Orthocarpus purpurascens Benth.

Listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia* as occurring in Victoria and Mount Finlayson; specimen not examined.

***Orthocarpus pusillus* Benth.** **Dwarf Orthocarpus**

Moist places and lowlands; occasional in Victoria, Oak Bay, Royal Oak, and Sidney.

****Parentucellia viscosa* (L.) Car.** **Yellow Weed**

Native of Europe; moist, low ground; sporadic weed. (*Bartsia viscosa* L.)

***Penstemon ovatus* Dougl.** **Broad-leaved Penstemon**

Open woods; rare; restricted to Goldstream and Saanich Arm.

***Rhinanthus crista-galli* L.** **Yellow Rattle**

Meadows and grassy fields; sporadic at Cedar Hill, Saanich, and Sidney; circumboreal. (*R. kyrollæ* Chab.)

****Verbascum thapsus* L.** **Müllein**

Native of Europe; roadsides and waste places; sporadic in Royal Oak, Saanichton, and Sidney.

***Veronica americana* Schwein.** **American Speedwell**

Wet and swampy ground; widely distributed throughout.

****Veronica arvensis* L.** **Corn Speedwell**

Native of Eurasia; an aggressive weed in fields and gardens.

****Veronica filiformis* Sm.** **Asian Speedwell**

Native of Asia; introduced in Royal Oak and Saanichton.

****Veronica officinalis* L.** **Common Speedwell**

Native of Europe; roadsides and disturbed fields; weedy and sporadic throughout. (*V. tournefourtii* Vill.)

***Veronica peregrina* L.** **Purslane Speedwell**

Wet, open ground; widely distributed in Victoria, Lost Lake, and Sidney; represented by var. *xalapensis* (H.B.K.) St. John and Warren. (*V. xalapensis* H.B.K.)

****Veronica persica* Poir.** **Winter Speedwell**

Native of Eurasia; weedy; occasional in lawns and gardens.

***Veronica scutellata* L.** **Marsh Speedwell**

Wet places; Victoria, Saanich, Thetis Lake Park, and the Highland district.

****Veronica serpyllifolia* L.** **Thyme-leaved Speedwell**

Native of Europe; moist meadows and disturbed sites; common in Victoria, Saanich, Sidney, and Goldstream. (*V. tenella* All.)

OROBANCHACEÆ: BROOMRAPE FAMILY

***Boschniakia hookeri* Walp.** **Ground-cone**

Parasitic on *Gaultheria shallon;* sporadic; West Saanich, Goldstream, and the Highland district. (*B. strobiliacea* sensu Henry, *Orobanche hookeri* Beck)

***Orobanche grayana* Beck** **Stout Cancer-root**

Parasitic on various species of *Compositæ;* in the past quite abundant along Dallas Road, Beacon Hill, Oak Bay, Uplands, and Esquimalt; becoming rare. (*O. comosa* Hook.)

***Orobanche uniflora* L.** **One-flowered Cancer-root**

Parasitic on a number of species and particularly on *Sedum;* common throughout.

LENTIBULARIACEÆ: BLADDERWORT FAMILY

***Utricularia minor* L.**

Listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia;* Beaver Lake; specimen not examined.

***Utricularia vulgaris* L.** **Common Bladderwort**

Ponds, stagnant lakes, and slow streams; widely distributed throughout. (*Lentibularia vulgaris* Moench.)

PLANTAGINACEÆ: PLANTAIN FAMILY

***Plantago elongata* Pursh** **Coast Plantain**

Rocky places along the Coast; common at Victoria, Ten Mile Point, Telegraph Bay, and Sidney; locally very abundant. (*P. bigelovii* Gray)

****Plantago lanceolata* L.** **English Plantain**

Native of Europe; an abundant weed in lawns and waste ground throughout.

****Plantago major* L.** **Common Plantain**

Native of Europe; a weed of roadsides, lawns, and other disturbed sites; locally very abundant.

***Plantago maritima* (Lam.) Hult.** **Seaside Plantain**

Banks, cliffs, and salt marshes; common along the Coast; represented by ssp. *juncoides* (Lam.) Hult.

RUBIACEÆ: MADDER FAMILY

****Asperula odorata* L.** **Sweet Woodruff**

Native of Europe; rare; collected by S. Flitcroft at Gorge Park in 1925, and the Highland district by A. E. Cooke in 1937.

***Galium aparine* L.** **Cleavers**

Thickets and wooded places; common throughout; represented by var. *echinospermum* (Wallr.) Farw.

***Galium boreale* L.** **Northern Bedstraw**

Moist thickets and open woods; common throughout.

****Galium mollugo* L.** **Wild Madder**

Native of Europe; listed by J. W. Eastham in *Supplement to Flora of Southern British Columbia* as occurring in Victoria; specimen not examined.

***Galium trifidum* L. s. lat.** **Bedstraw**

Wet, swampy, and wooded areas; occasional throughout; an extremely variable species with many taxa described; *G. trifidum* complex requires critical and systematic study. (*G. trifidum* var. *pacificum* Wieg.)

***Galium triflorum* Michx.** **Fragant Bedstraw**

Moist, woody habitat; common throughout.

****Galium verum* L.** **Yellow Bedstraw**

Native of Europe; sparingly introduced in Victoria in Ross Bay, Oak Bay, and the Gorge area.

****Sherardia arvensis* L.** **Blue Field Madder**

Native of Europe; waste places and open disturbed sites; a locally common weed in lawns.

CAPRIFOLIACEÆ: HONEYSUCKLE FAMILY

***Linnæa borealis* L.** **Twinflower**

Open to dense woods; throughout most of the wetter and cooler forests of the area; represented by var. *longiflora* Torr.; circumpolar. (*L. americana* Forbes, *L. longiflora* Howell)

***Lonicera ciliosa* (Pursh) DC.** **Orange Honeysuckle**

Open woods and thickets; common throughout in suitable habitats; an attractive shrub that deserves cultivation.

Orange honeysuckle (*Lonicera ciliosa*), a striking climber of open woods and thickets.

*__*Lonicera etrusca* Santi__ __Eutruscan Honeysuckle__

Native of the Mediterranean region; open woods and thickets; now established and common in many areas; particularly in Saanich and Sidney.

__*Lonicera hispidula* (Lindl.) Dougl.__ __Hairy Honeysuckle__

Dry woods, thickets, and clearings; most abundant in Saanich and the Highland district. (*L. californica* T. & G., *Caprifolium hispidulum* Lindl.)

__*Lonicera involucrata* (Rich.) Banks__ __Black Twin-berry__

Wet woods and thickets, along streams and lake shores; very common throughout. (*Caprifolium involucratum* Kuntze)

__*Sambucus cerulea* Raf.__ __Blue Elderberry__

Open woods and thickets; rare; collected in Victoria by J. R. Anderson in 1896 and near Thetis Lake Park by M. C. Melburn in 1959. (*S. glauca* Nutt.)

__*Sambucus racemosa* L.__ __Red Elderberry__

Open woods, thickets, along the roadsides and edges of woods; very common throughout; represented by ssp. *pubens* (Michx.) House and considered by many as a distinct species. (*S. calicarpa* Greene, *S. pubens* Michx.)

__*Symphoricarpos albus* (L.) Blake__ __Snowberry__

Open ground, woods, and thickets; common throughout; represented by var. *lævigatus* (Fern.) Blake. (*S. racemosus* Michx., *S. rivularis* Suksd.)

__*Symphoricarpos mollis* Nutt.__ __Creeping Snowberry__

Open woods, bushland, and dry thickets; locally abundant; represented by var. *hesperius* (G. N. Jones) Cronq. (*S. albus* var. *mollis* Keck.)

__*Viburnum opulus* L.__

Wet, wooded areas; restricted to the Goldstream area, where it was collected by M. C. Melburn in 1962, 1963, and 1964; represented by var. *americanum* Ait. (*V. trilobum* Marsh.)

VALERIANACEÆ: VALERIAN FAMILY

__*Plectritis congesta* (Lindl.) DC.__ __Seablush__

Open, exposed slopes in rocky outcrops; common throughout in suitable habitats. (*P. anomala* Suksd., *P. samolifolia* (DC.) Hoeck., *Valerianella congesta* Lindl., *V. anomala* Gray, *V. samolifolia* (DC.) Gray)

__*Plectritis macrocera* T. & G.__

Moist, open places and streambanks; Victoria, Beaver Lake, Thetis Lake Park, Highlands, Goldstream, and Mount Finlayson. (*Valerianella macrocera* Gray)

__*Valeriana sitchensis* Bong.__ __Northern Valerian__

Rare; limited to Goldstream, where it was collected by J. R. Anderson in 1901; not recollected since then in the area.

DIPSACACEÆ: TEASEL FAMILY

*__*Dipsacus sylvestris* Huds.__ __Teasel__

Native of Europe; established in Victoria and the Keating area.

CUCURBITACEÆ: GOURD FAMILY

__*Marah oreganus* (T. & G.) Howell__ __Western Balsam Apple__

Waste places in abandoned gardens; occasional; Victoria, Saanich, and Patricia Bay. (*Echinocystis oregana* Cogn.)

CAMPANULACEÆ: CAMPANULA FAMILY

__*Campanula rotundifolia* L. s. lat.__ __Harebell__

Moist, open slopes; known from Oak Bay and Thetis Lake Park; a polymorphic species with a number segregates described; circumboreal. (*C. rotundifolia* var. *alaskana* (Gray) Wight, *C. rotundifolia* var. *petiolata* Henry)

***Campanula scouleri* Hook.** **Scouler's Campanula**

Open woods, edges of forests, and less often on rock outcrops; the common species of *Campanula* in the area, particularly in Esquimalt, Sidney, Goldstream, Francis, and Thetis Lake Park.

***Heterocodon rariflorum* Nutt.**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined. Known in British Columbia from the Columbia Valley. (*Specularia rariflora* McVaugh)

***Triodanis perfoliata* (L.) Nieuwl.** **Venus Looking-glass**

Open, disturbed places; mostly restricted to dry, sandy soil; Uplands, Shelbourne, Mount Tolmie, Mount Douglas, and Esquimalt. (*Campanula perfoliata* L.)

COMPOSITÆ: COMPOSITE FAMILY

****Achillea millefolium* L. s. lat.** **Yarrow**

Native of Europe; fields and roadsides; a polymorphic species difficult to interpret; common throughout. (*A. lanulosa* Nutt., *A. borealis* Bong., *A. californica* Pollard, *A. pacifica* Rydb., *A. eradiata* Piper)

***Adenocaulon bicolor* Hook.** **Trail Plant**

Moist, shady woods; common throughout. (*A. integrifolia* Nutt.)

***Agoseris glauca* (Pursh) Raf.** **Fall Dandelion**

Meadows and open places; sporadic; Victoria, Uplands, Saanich, and Thetis Lake Park. (*A. lacinata* (Nutt.) Greene)

***Agoseris heterophylla* (Nutt.) Greene**

Dry, open grassy places; locally abundant; Victoria, Saanich, Langford, and the Highland district.

****Ambrosia trifida* L.** **Giant Ragweed**

Native of Europe; moist soil and waste places; occasional weed in the area. (*A. integrifolia* Muhl.)

***Anaphalis margaritaceæ* (L.) B. & H.** **Pearly Everlasting**

Open woods and roadbanks; common throughout. (*Gnaphalium margaritaceum* L.)

***Antennaria anaphaloides* Rydb.** **Tall Everlasting**

Grassy foothills; similar to *A. lanata;* rare; Highland district.

***Antennaria neglecta* Greene** **Howell's Everlasting**

Open woods, grassy places; sporadic throughout; represented in our area by var. *attenuata* (Fern.) Cronq. and var. *howellii* (Greene) Cronq. (*A. howellii* Greene, *A. concolor* Piper)

***Antennaria racemosa* Hook.** **Slender Everlasting**

Moist, open woods; rare; restricted to Goldstream and Langford.

****Anthemis arvensis* L.** **Field Chamomile**

Native of Europe; naturalized and occasional in fields and waste places.

****Anthemis cotula* L.** **Dog Fennel**

Native of Europe; common weed throughout.

****Anthemis tinctoria* L.**

Native of Europe; an occasional escapee from cultivation.

******Arctium lappa*** **L.** **Great Burdock**

Native of Eurasia; occasional weed along roadsides and waste places.

******Arctium minus*** **(Hill) Bernh.** **Common Burdock**

Native of Eurasia; sporadic weed along roadsides and waste places. (*Lappa minor* Hill)

Arnica cordifolia **Hook.** **Heart-leaved Arnica**

Open woods; rare; restricted to the Mount Finlayson area. This is the only *Arnica* reported from the area of study.

******Artemisia absinthium*** **L.** **Wormwood**

Native of Europe; occasional in fields and waste places throughout.

Artemisia biennis **Willd.** **Biennial Wormwood**

Waste places in sandy soil; rare; Saanich.

Artemisia campestris **L.**

Open places; occasional; circumboreal; Victoria, Oak Bay, Saanich, and Island View Beach; represented by ssp. *borealis* (Pall.) Hall & Clem. (*A. borealis* Pall., *A. pacifica* Nutt., *A. campestris* ssp. *pacifica* Hall & Clem., *A. caudata* Michx.)

Artemisia canadensis **Michx.**

This species, listed in Henry's *Flora* and in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands*, according to Eastham (1947), appears to be *A. campestris* subsp. *pacifica* (Nutt.) H. & C. (*see* synonymy of *A. campestris*)

Artemisia suksdorfii **Piper** **Coast Wormwood**

Sandy beaches; locally abundant throughout.

******Artemisia vulgaris*** **L.** **Common Mugwort**

Native of Europe; sporadically established in waste places.

Aster chilensis **Nees**

Listed in Henry's *Flora* as occurring in Victoria; specimen not examined. (*A. chamissonis* Gray ex Torr.)

Aster curtus **Cronq.**

Open places; sporadic; Victoria and the Uplands. (*Seriocarpus rigidus* Lindl.)

Aster eatonii **(Gray) How.** **Oregon Aster**

Moist places; sporadic; Victoria, Elk Lake, and the Highland district. (*A. foliaceus* var. *eatonii* Gray)

Aster engelmanni **(D. C. Eaton) A. Gray**

Listed in Henry's *Flora* as occurring in Victoria and Colwood; specimens not examined. (*Eucephalus engelmanni* Greene)

Aster foliaceus **Lindl. s. lat.** **Leafy Aster**

Moist, wooded places; occasional; Victoria, Beacon Hill, Swan Lake, and Sidney; very variable and similar to *A. subspicatus*. (*A. cusickii* Gray, *A. apricus* Rydb., *A. canbyi* Vasey)

Aster hesperius **Gray**

Moist ground; rare; collected by M. C. Melburn in 1964 at Swan Lake. (*A. foliaceus* var. *hesperius* Jeps.)

Aster modestus **Lindl.**

Moist woodland; rare; known only from Goldstream, where it was collected by M. C. Melburn in 1961.

Aster occidentalis **(Nutt.) T. & G.** **Western Aster**

Damp meadows; occasional; Saanich and the Goldstream area.

Aster radulinus **Gray**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria and Mount Finlayson; specimens not examined. (*Eucephalus macounii* Greene)

Aster subspicatus **Nees. Douglas' Aster**

Seashores and moist woodland; sporadic throughout; an unstable species similar to *A. foliaceus.* (*A. douglasii* Lindl., *A. oreganus* T. & G.)

Balsamorhiza deltoidea **Nutt. Balsam Root**

Open, dry, grassy places; sporadic; Beacon Hill, Victoria, Royal Oak, Langford, and Thetis Lake Park, where it is most common.

*****Bellis perennis*** **L. Common Daisy**

Native of Europe; lawns and waste places; common throughout.

Bidens cernua **L. Bur Marigold**

Wet ground; widespread throughout. (*B. macounii* Greene)

*****Calendula arvensis*** **L. Pot Marigold**

Native of Europe; casual garden escapee; Victoria.

*****Centaurea calcitrapa*** **L. Star Thistle**

Native of Eurasia; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

*****Centaurea cyanus*** **L. Corn Flower**

Native of Europe; fields, roadsides, and waste places; cultivated as an ornamental and now established throughout.

*****Centaurea dubia*** **Suter.**

Native of Europe; published in the Provincial Museum Report (1921) as occurring in Victoria; specimen not examined. (*C. vochinensis* Bernh.)

*****Centaurea jacea*** **L. Brown-rayed Knapweed**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Victoria; specimen not examined.

*****Centaurea maculosa*** **Lam.**

Native of Europe; roadsides and waste places; sporadic weed throughout.

*****Centaurea melitensis*** **L. Tocalote**

Native of Europe; listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Esquimalt; specimen not examined.

*****Centaurea nigra*** **L. Black Knapweed**

Native of Europe; fields and waste places; sporadic throughout.

*****Chrysanthemum leucanthemum*** **L. Oxeye Daisy**

Native of Eurasia; fields, roadsides, and waste places; common throughout.

*****Chrysanthemum parthenium*** **(L.) Bernh. Feverfew**

Native of Europe; occasional escapee from cultivation; Victoria and Ten Mile Point.

*****Cichorium intybus*** **L. Chicory or Blue Sailors**

Native of Eurasia; roadsides and waste places; common throughout.

*****Cirsium arvense*** **(L.) Scop. Canada Thistle**

Native of Eurasia; a noxious weed of fields and waste places throughout.

Cirsium brevistylum **Cronq. Indian Thistle**

Moist places and ditches; sporadic; Victoria, Elk Lake, Langford, and Goldstream.

***Cirsium edule* Nutt. Edible Thistle**

Wet meadows and moist, open woods; occasional in Goldstream and Langford. This species is often confused with *C. brevistylum*. (*Carduus edulis* Greene, *Cirsium macounii* Rydb.)

****Cirsium vulgare* (Savi) Airy-Shaw Bull Thistle**

Native of Europe; widely established as a weed throughout. (*Carduus vulgaris* Savi, *Carduus lanceolatus* L.)

***Conyza canadensis* (L.) Cronq. Horseweed**

Waste places and disturbed soil; occasional throughout; represented by var. *glabrata* (Gray) Cronq. (*Erigeron canadensis* L.)

****Cotula coronopifolia* L. Mud Disk**

Native of South Africa; tidal flats and moist places; common in Sidney and Goldstream and sporadic throughout in suitable habitats.

****Crepis biennis* L. Rough Hawk's-beard**

Native of Eurasia; pastures, waysides, and waste places; Uplands Park, Beaver Lake, and West Saanich Road; sporadic.

****Crepis capillaris* (L.) Wallr. Smooth Hawk's-beard**

Native of Europe; established as a weed of pastures, lawns, and waste places throughout.

***Crepis intermedia* Gray**

Rare; a single collection known from Island View Beach, collected by M. C. Melburn in 1964.

***Crepis modocensis* Greene Low Hawk's-beard**

Rare; collected at Island View Beach by M. C. Melburn in 1967.

***Crepis runcinata* (James) T. & G. Meadow Hawk's-beard**

Moist meadows; rare; Island View Beach. (*Hieracium runcinatum* James)

****Crepis tectorum* L.**

Native of Europe; waste places; rare; Cordova Bay. (*Hieracium tectorum* Karsch)

***Crocidium multicaule* Hook. Gold-star**

Sandy places; rare; collected by M. C. Melburn at Mount Finlayson in 1960 and A. F. Szczawinski at Island View Beach in 1968. (*C. pugetense* St. John)

****Doronicum pardalianches* L. Great Leopard's-bane**

Native of Europe; rare; occasional escapee from cultivation. Formerly grown for medicinal purposes.

***Erigeron philadelphicus* L. Michaelmas Daisy**

Moist, disturbed soil; occasional; Uplands, Patricia Bay, and Sidney; noticeably decreasing in its distribution.

***Eriophyllum lanatum* (Pursh) Forbes s. lat. Woolly Sunflower**

Dry, open places; common throughout; variable species with a number of varieties described.

***Franseria chamissonis* Less. Sand-bur**

Sandy beaches; locally abundant. (*Ambrosia chamissonis* Greene, *Franseria bipinnatifida* Nutt., *F. chamissonis* ssp. *bipinnatisecta* Wiggins & Stockw.)

***Gaillarida aristata* Pursh Great-flowered Gaillardia**

Dry meadows and open places; occasional; known from Victoria and Goldstream Park; not collected since 1919.

***Gnaphalium chilense* Spreng. Cotton-batting Plant**

Open, moist places; rare; known from the Saanichton area, where it was collected by V. E. L. Goddard in 1932 and East Saanich Road by M. C. Melburn in 1962. (*G. sprengelii* Hook. & Arn.)

***Gnaphalium microcephalum* Nutt.** **Slender Cudweed**

Dry, open places; common throughout; most of our plants belong to var. *thermale* (E. Nels.) Cronq. (*G. thermale* E. Nels.)

***Gnaphalium palustre* Nutt.** **Lowland Cudweed**

Moist, open places; common throughout.

***Gnaphalium purpureum* L.** **Purplish Cudweed**

Sandy, open places; sporadic throughout. (*G. ustulatum* Nutt.)

****Gnaphalium uliginosum* L.** **Low Cudweed**

Native of Europe; streambanks and waste places; Beaver Lake, Mount Douglas, and John Dean Parks.

***Grindelia integrifolia* DC.** **Gumweed**

In a variety of habitats along the Coast; very common throughout; a highly polymorphic species represented by var. *integrifolia* and var. *macrophylla* (Greene) Cronq. (*G. stricta* DC., *G. oregana* Gray, *G. hendersonii* Greene, *G. lanata* Greene, *G. collinia* Henry, *G. andersonii* Piper, *G. nana* sensu Carter & Newcombe)

***Helenium autumnale* L.** **Sneezeweed**

Moist, low ground; sporadic throughout. (*H. grandiflorum* Nutt.)

***Helianthus maximillianii* Schrad**

Rare; known only from the Outer Wharf, Victoria, where it was collected by J. Macoun in 1913; record listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands* most likely refers to the same specimen.

***Hieracium albiflorum* Hook.** **White-flowered Hawkweed**

Open woods and moist, grassy slopes; common throughout.

****Hieracium aurantiacum* L.**

Native of Europe; this stoloniferous, noxious weed has recently escaped from cultivation in Victoria and is spreading rapidly.

***Hieracium canadense* Michx.** **Canada Hawkweed**

Moist, open places; rare; known only from Beacon Hill, where it was collected by J. Macoun in 1913 and Oak Bay by G. A. Hardy in 1924; not collected since. (*H. columbianum* Rydb)

***Hieracium umbellatum* L.** **Narrow-leaved Hawkweed**

Open woods; rare; very similar to *H. canadensis;* circumboreal; collected in the Uplands by M. C. Melburn in 1953. (*H. scabriusculum* Schwein., *H. macranthum* Nutt.)

****Hypochœris glabra* L.** **Smooth Cat's-ears**

Native of Europe; disturbed and waste places; weedy; common throughout.

****Hypochœris radicata* L.** **Hairy Cat's-ears**

Native of Europe; weed of lawns and pastures; very common throughout the area.

***Jaumea carnosa* (Less.) Gray**

Salt marshes along the Coast; throughout in suitable habitats. (*Kleinia carnosa* Kuntze)

***Lactuca biennis* (Moench.) Fern.** **Tall Blue Lettuce**

Moist, shady woods; rare; Goldstream Park. (*L. leucophæa* var. *integrifolia* Gray, *L. spicata* var. *integrifolia* Britt., *L. multifida* Rydb.)

****Lactuca muralis* (L.) Fresen.** **Wall Lettuce**

Native of Europe; moist, shady places; common throughout.

****Lactuca serriola* L.**

Native of Europe; a weed of fields and waste places; common throughout. (*L. integrata* A. Nels.)

***Lapsana communis L.** **Nipplewort**

Native of Eurasia; a weed in fields and disturbed sites; widely established throughout.

***Leontodon autumnalis L.** **Fall Dandelion**

Native of Eurasia; casual weed of pastures and disturbed places.

***Leontodon nudicaulis (L.) Merat** **Hairy Hawkbit**

Native of Europe; weed of lawns and waste places; very common throughout the area; represented by ssp. *teraxacoides* (Vill) Schinz & Thell. (*L. leysseri* G. Beck., *L. hastilis* sensu Henry)

Luina hypoleuca Benth. **Silver-back**

Rare; known from Thetis Lake, where it was collected by M. C. Melburn in 1962.

Madia elegans Don

Dry, open places; rare; roadside weed. (*M. densifolia* Greene, *M. corymbosa* Lindl.)

Madia exigua (Sm.) Gray **Little Tarweed**

Grassland and dry, open woods; sporadic; Esquimalt, Sidney, and Goldstream. (*Sclerocarpus exignus* J. E. Sm., *M. filipes* Gray)

Madia glomerata Hook. **Stinking Tarweed**

Dry, open places; sporadic throughout the area. (*M. ramosa* Piper, *M. glomerata* var. *ramosa* Jeps.)

Madia gracilis (Sm.) Keck **Common Tarweed**

Dry, open places; common throughout. (*Sclerocarpus gracilis* Sm., *M. dissitiflora* T. & G., *M. racemosa* T. & G., *M. sativa* var. *racemosa* Gray)

Madia madioides (Nutt.) Greene

Open woods, sporadic in Brentwood and Goldstream. (*M. nuttallii* Gray, *Anisocarpus madioides* Nutt.)

***Madia sativa Mol.** **Chilean Tarweed**

Native of south America; dry, open fields; common throughout. (*M. capitata* Nutt., *M. sativa* var. *congesta* T. & G., *M. sativa* ssp. *capitata* Piper)

***Matricaria maritima L.**

Native of Europe; sporadic weed along roadsides, waste places, and along the seashore in saline habitats. (*M. indora* L., *M. maritima* var. *agrestis* Willmott)

Matricaria matricarioides (Less.) Porter **Pineapple-weed**

Dry, open ground and waste places; common throughout. (*M. suaveolens* Buch., *M. discoidea* DC., *Chamomilla occidentalis* Rydb.)

Microseris bigelovii (Gray) Schultz-Bip. **Coast Microseris**

Wet, open places along the Coast; rare and limited to only a very few localities (*Calais bigelovii* Gray.) One of the most interesting species occurring in the area. A number of records indicate that it was more abundant in the past, with the oldest record being from Victoria in 1893; collected recently by M. C. Melburn in the Uplands and Thetis Lake Parks (1955–67). Chambers states † "It is a remarkable fact of plant distribution to find this species, along with others from further south, in this limited area of Victoria and San Juan Islands. The nearest locality I have seen in the herbaria is Lincoln County, Oregon, just west of Corvallis."

***Onopordum acanthium L.** **Scotch or Cotton Thistle**

Native of Eurasia; naturalized weed; Victoria, Cadboro Bay, and the Uplands.

Petasites frigidus (L.) Fries **Coltsfoot**

Moist woods, swampy places, and wet meadows; sporadic and locally abundant throughout in suitable habitats; represented by var. *palmatus* (Ait.) Cronq. In the past the *P. frigidus* complex has received various treatments and still requires further study. (*P. palmatus* Gray, *P. speciosus* Piper)

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† From correspondence between Dr. K. L. Chambers, Oregon State University, and Miss M. C. Melburn, Victoria, B.C.

***Psilocarphus elatior* Gray** **Woolly-heads**

Open, moist places; rare; Uplands, Saanichton, and Sidney.

***Psilocarphus oreganus* Nutt.**

Listed in *A Preliminary Catalogue of the Flora of Vancouver and Queen Charlotte Islands;* Saanichton; specimen not examined.

***Psilocarphus tenellus* Nutt.** **Slender Woolly-heads**

Moist, open ground; sporadic; Victoria, Saanichton, and Goldstream.

****Senecio jacobea* L.** **Tansy Ragwort**

Native of Europe; a sporadic weed in disturbed places and cultivated land.

***Senecio macounii* Greene** **Long-rayed Senecio**

Open woods and dry, open places; known from Saanich Road and Prospect Lake. (*S. fastigiatus* Nutt., *S. fastigiatus* ssp. *macounii* Green)

****Senecio sylvaticus* L.**

Native of Europe; a weed of disturbed soil and waste places; common throughout.

****Senecio vulgaris* L.**

Native of Europe; common weed throughout.

****Silybum marianum (L.)* Gaertn.** **Milk Thistle**

Native of the Mediterranean region; well established in California; sporadic in Victoria and the Uplands area. (*Carduus marianus* L.)

***Solidago canadensis* L.** **Golden-rod**

Grassy places and open woods; common on suitable habitats throughout; var. *salebrosa* (Piper) Jones and var. *subserrata* (DC) Cronq. are the recognized varieties present in the area of study. (*S. lepida* DC.)

****Sonchus arvensis* L.** **Annual Sow Thistle**

Native of Europe; one of the most common weeds in our area.

****Sonchus asper* (L.) Hill** **Spiny Sow Thistle**

Native of Europe; common weed of waste and disturbed places.

****Sonchus oleraceus* L.** **Hare's Lettuce or Smooth Sow Thistle**

Native of Europe; common weed of fields, waste places, and disturbed soils.

****Tanacetum vulgare* L.** **Tansy**

Native of Europe; escapee from cultivation and sporadic along the roads and waste places throughout.

****Taraxacum officinale* Weber** **Dandelion**

Native of Europe; very common weed of lawns and disturbed places throughout. (*Leontodon taraxacum* L.)

****Tragopogon dubius* Scop.** **Oyster Plant**

Native of Europe; open, dry places; sporadic; most common in the Victoria area. (*T. major* Jacq.)

****Tragopogon porrifolius* L.** **Purple Oyster Plant**

Native of Europe; roadside and waste places; locally abundant.

****Tragopogon pratensis* L.**

Native of Europe; roadsides and waste places; sporadic throughout the area.

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